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ABSTRACT

Focusing on innovative and cost-effective alternatives to traditional, custodial, and institutional health care systems, the papers in these proceedings identify the contributions of nursing and the benefits for patients of the new national emphasis on cost-effective health care. The proceedings contain: (1) "Trends in Health Promotion: Implications for Nursing Education, Service, and Social Policy," by Gloria R. Smith; (2) "Health Promotion: Directions for Nursing Research," by Nola J. Pender; (3) "The Wellness Payoff--Benefits for Clients and Nursing," by Marlene Gilliland; (4) "Health Promotion Service: Evaluation and Impact," by Roger W. Reed; (5) "Monitoring Patients with Nasally Placed Feeding Tubes: A Collaborative Research Effort," by Norma A. Metheny and Patricia Eisenberg; (6) "The Influence of an Employee Fitness Program upon Cost Containment Variables of Absenteeism, Insurance Claims, and Physiological Measures," by Peggy White; (7) "Nursing Clinics: Promoting Health in the Community," by Nancy S. Hoeman; (8) "Mobile Health Unit for Older Adults," by Kay T. Roberts-Rudd; (9) "Health Promotion: The Role of Nursing Faculty--A Description of a Faculty Health Promotion Project," by Sherry Smith; (10) "A Self Health Project for Nursing Students," by Mary S. Weisensee, Janice M. Anderson, and Cheryl A. Lapp; (11) "Cognitive Dissonance and Smoking Behavior of Registered Nurses," by Karen Leigh Gum; (12) "Self-Care Agency Assessment in Health Promotion," by Helena Anne Lee; and (13) "Wellness at the Worksite," by Patricia Wiley and Carolyn Gustafson. (AYC)

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HEALTH PROMOTION:
CONTRIBUTIONS OF NURSING: BENEFITS FOR CLIENTS

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PREFACE

MAIN's Sixth Annual Program Meeting focused on health promotion, a most important aspect of nursing in every setting. It was the desire of the program planners to identify specifically those contributions of nursing and benefits for clients that play a part in the new national emphasis on cost-effective care. Speakers were invited to examine innovative and cost-effective alternatives to traditional, custodial, and institutional health care systems. The determination of the cost-effectiveness of nursing, and nursing costs related to Diagnostic Related Groups (DRG's) are being addressed in every health care delivery setting. Although health care outcomes are difficult to relate to specific nursing interventions, the major health promotion programs now funded by the federal government, third party payers, and industry are intended to assess the large scale and long term impact of health promotional activities on the health status of the nation.

The studies reported at this conference were varied in scope from agency-wide to region- and industry-wide; and in size from a few clients to many thousands. Little information has been reported previously on the effect of health promotion on health care outcomes. This is attributed to national inattention to this aspect of care. Now, however, cost containment policy at federal level has radically changed our health care priorities, and health promotion is viewed as a prime area for achieving future deductions in health care costs.

MAIN takes pride in offering these edited papers presented by contributors to the April 1985 conference. Their ideas, freely shared, are taken back by attendees for implementation in their own agencies. In this way, the shared ideas become the basis for continuing improvement in patient care in our region.

The Editors

ACKNOWLEDGEMENTS

We extend our special thanks to the MAIN Member Agencies for their continued support and participation in MAIN's semi-annual programs. The editors also express their sincere appreciation to the Program Committee and Governing Board for their support, guidance, and direction as well as the speakers who contributed their time, talent, and unique perspective of the contributions of nursing to health promotion.

We are also grateful to MAIN's Administrative Secretary, Vicki Johnson, who prepared all manuscripts for these Proceedings. Finally, the funding support from the W.K. Kellogg Foundation, which has assisted MAIN in organizing and presenting regional programs of quality, is also gratefully acknowledged.

The Editors

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BIOGRAPHICAL SKETCHES

GLORIA R. SMITH, RN, PhD, FAAN, Director, Michigan Department of Public Health Nursing, Lansing, MI. Dr. Smith received her nursing degree from Wayne State University and her master's in Public Health from the University of Michigan. Active in the nursing arena, she has served on the steering committee for the Midwest Alliance in Nursing, the Governing Council of the American Academy of Nursing, the Advisory Committee for the American Nurses' Association, the Board of the National Black Nurses' Association, and as Chair and Board member of the National League for Nursing. Prior to her present position, she was Dean and Professor at the University of Oklahoma College of Nursing, Oklahoma City. She was recently honored with the 1984 Honorary Recognition Award by the Oklahoma Nurses' Association for her distinguished service to the profession.

NOLA J. PENDER, RN, PhD, FAAN, Professor of Nursing, Community Health, Northern Illinois University, DeKalb, IL; Adjunct Professor, Rush University, Chicago, IL; and Coordinator, Relaxation and Biofeedback Program, DeKalb County Health Department, DeKalb, IL. Active in nursing research, Dr. Pender is president-elect of the Midwest Nursing Research Society and former chairperson of the American Nurses' Association Cabinet on Nursing Research. A principal investigator in numerous research projects, her latest proposal will involve testing a proposed model for Health Promoting Behavior. She has published some of her findings in *Health Promotion in Nursing Practice*. Dr. Pender is a graduate of West Surburban Hospital School of Nursing, Michigan State University, and Northwestern University.

MARLENE GILLILAND, RN, MSN, on educational leave as Director of Health Education, Sioux Valley Hospital, Sioux Falls, SD; and Adjunct Associate Professor, South Dakota State University, Brookings. With nursing degrees from Augustana College, George Washington University, and Vanderbilt University, she is pursuing her doctorate in health science from Columbia Pacific University. A certified Adult Nurse Practitioner, Ms. Gilliland is active in the South Dakota Nurses' Association.

ROGER W. REED, RN, C, Manager, Benefits Engineering, Blue Cross and Blue Shield of Indiana, Indianapolis, IN. A graduate of the Indiana University School of Nursing, he is certified as a Family Nurse Practitioner. He recently served as project director of "Health Promotion Service: Evaluation and Impact Study," a W.K. Kellogg Foundation grant completed in 1984. Active in the Salvation Army Alcohol Detoxification Center, he recently served as the director of the Greater Indianapolis Council on Alcoholism and as a member of the Governor's Council on Alcoholism, State of Indiana.

Health Promotion: Contributions of nursing, benefits to clients

Gloria R. Smith, RN, PhD, Director
Michigan Department of Public Health
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It is a pleasure to be here addressing health promotion, an area in which I have great interest because of its potential for improvement of the public's health. The contributions of nursing to health promotion are sometimes invisible to the American people and to the media which shape many of our perceptions about our social environment. That saddens me as a nurse and as the director of a public health department. In truth, our contributions to health promotion have greater potential than actuality because of work context factors we have been largely unable to control.

Within public and private health care organizations, current economic conditions present opportunities for nurses to become creative in dealing with constraints upon our usual expectations for financing. Methods of surviving and succeeding require both ingenuity and the ability to predict alternative future directions for nursing in an increasingly unstable health care marketplace. In the past, payoffs from government, the public, insurors, and corporations were almost entirely for illness care. Health promotion is now a real national agenda affecting health care practitioners and administrators in government and in the private sector. Surely nursing roles will change greatly in the near future.

Hospitals and other health care agencies share certain characteristics with public health departments, characteristics which affect the future of nursing as we seek to add new programs which help the American public, redirect our missions, and assure our financial viability. Ours are process organizations providing public services which are largely dependent upon the organization of human services to meet societal needs. Health is, to some extent, an intangible which is constantly being redefined by a population which changes in its age groupings, geographical distributions, lifestyles, and expectations directed toward the health and illness care systems. Nursing must attend to the societal changes affecting definitions of health in order to propose and implement timely and relevant health care services.

Hospitals and many other health care organizations are often expected to redress social inequities and to serve as agents of social change, but without the protection from market forces which assures the survival of entities of government. It can be frustrating for hospitals and other health care organizations to deal with the ambiguous and often incompatible goals of a heterogeneous American public, while struggling for financial viability, especially in an era of cost containment. A multiplicity of professional, administrative, and public interest groups often have conflicting visions of the hospital's or the health care agency's future. A diffuse power base makes strategic planning difficult to conduct and to carry out. Thus, flexibility in moving in new directions can be thwarted. For nurses, the confusion can result in either focused efforts to discern and meet strategic needs, a proactive stance, or in mere response to unfolding events, a reactive stance. Clearly the former is preferable to the latter.

Nevertheless, we must move forward to address a problem we share with other health practitioners: how to move a greater proportion of societal resources toward health promotion. This can only occur through public-private sector collaboration, a theme supported by many Republican and Democratic elected officials, but a theme which is new to nurses who have been employed in the public or the quasi-public (protected) sector. As a nurse and as director of a public health department, I have proposed the creation of a health promotion organization encompassing public and private resources. Experimental projects would be funded that are not otherwise sponsored by third party payment sources, non-profit private corporations, hospitals, etc.

This is only one of many potential areas for nurses collaborating with other health professionals and with legislators, unions, employers, and community representatives.

Our public health department will be publishing a monograph supportive of wellness in the workplace shortly, and many successful programs in Michigan and in other states will be profiled within it. This is surely an outreach area of potential programmatic significance to hospitals, especially in relation to the smaller employers, those who employ at least half of the working residents of Michigan. These employers cannot build their own programs. Here is an area where knowledgeable nurses can surely define a role for themselves as both catalysts and as program directors and coordinators.

We are impressed with the growing number of workplace programs with proven value and cost benefits to employers as well as quality of life benefits to employees. These include smoking cessation, weight control, alcoholism and substance abuse counseling, exercise programs, health risk appraisal screening, and risk reduction counseling. Such programs have a great deal of support nationally and could be marketed by nurses as entrepreneurs and as representatives of hospitals, non-profit, and public health departments.

Unused hospital capacity can be converted to other community-based programs which generate income as well as loyalty to the facility. Hospitals could have a role in health education in the schools, in outpatient wellness programs for the elderly, and in the expansion of industrial medicine and hygiene, especially in the detection and treatment of environmental hazards, a service of increasing value to private corporations. Contractual arrangements could be highly supportive of hospital budgets, going beyond the regulatory boundaries to afford business enterprise protections which are relevant to public image and financial viability. Needless to say, the use of unused hospital capacity for community based wellness will open many new positions for nurses and will result in new definitions of community health nursing.

It would be possible for hospitals to organize their own legislative initiatives to amplify their budgets well in advance so that new programs receive public visibility representing a "critical mass" of effort in health rather than primarily illness care. Hospitals could propose a very modest tax on hospital admissions, perhaps one dollar per admission, which would finance wellness programs of an experimental sort, allowing for trial and error learning in the organization's adjacent external organization. It would take courage and ingenuity to convince the legislature during a period of political conservatism. However, the conservative tide may be with us for the rest of the century. If hospitals merely react to the political and economic climate, many will fold, be absorbed by multistate corporate hospital systems, or be converted to HMOs. Nurses should be part of this "critical mass" of effort in health, which would reflect our ability to effectively network with broader audiences to refocus health resources toward health and not merely primary illness care.

For hospitals to move forward, exercising greater leadership in health promotion, new concepts must filter through the ranks, concepts which will unify heterogeneous internal constituencies, including nurses with other health professionals. Exceptional leadership must emerge, leadership which excites organizational members so that they believe in the potential for change. Charismatic leadership generates organizational excitement, proposing a "common vision" which emerges as a unifying element in corporate culture. The mission and goals of the organization must be translated into opportunities to programmatically express the common vision. A set of crucial values must be translated into organizational policies and practices, supporting the common vision and aligning it with real opportunity. An essential aspect of this transformation of the hospital or other health care agency is an enhanced sense of capability, competence, and control of one's own destiny by organizational members at all levels.

Nurses must conceive of themselves and behave as charismatic leaders when the opportunity arises, articulating a common vision and set of values that cuts across the disciplinary boundaries in health care. Nurses must come into their own as origins of their destiny -- to be integrators among disparate groups in the hospital's corporate culture.

I believe that hospitals and other health care agencies can meet the demands of the future only if managerial philosophy and activity changes. As nurses and as employees, we know something about innovation which does succeed. Employees want a chance to be tested, and to express their own self-reliance and self-actualization. Social experimentation is part of the integration of life which we all seek, and it is an expression of the human need for community. The desire for excellence and uniqueness, for the chance to do something well, exists in all of us. Personnel in health care want to enhance the human potential, to help others, and to provide essential services. Activism, social responsibility, and citizenship all represent the desire to be part of change. This desire must be harnessed by those of us in management.

We at the Michigan Department of Public Health are struggling with these same issues. We are currently renegotiating our relationship with the local health departments. Our intent is to free them to be more creative and experimental, and to improve our ability to facilitate their efforts. The basis for our new and unified performance contracting system is respect for their autonomy, and simplification and clarity of mutual expectations. We hope for that generation of organizational excitement which is so elusive and yet essential if the Michigan Department of Public Health is to move into the future with confidence and success, despite shrinking resources. As a nurse and as the Director of Public Health, I am struggling with the same issues which I present here for your consideration.

We are aware of the problems and pitfalls that face us as we attempt to change our organization's culture. Individually, we must become adept at double loop learning. We must be able to link our action strategies with their immediate consequences and with their impact upon our own learning and effectiveness. This involves honest self-assessment by each of us. The real enemy of double loop learning is leaders' disposition to ignore or to suppress dilemmas and paradoxes affecting difficult problems. Advocacy subject to critiquing, and the exercise of power without constraining inquiry into alternatives and their effects, are objects of double loop learning. Such advocacy requires a tolerance for ambiguity and frustration.

In the process of innovation you are, no doubt, struggling with many of the same issues which trouble me. How much influence should planning, explicit analysis of data, and articulated reasoning have, in contrast to judgement derived from the intuitive mode? Ambiguity is, after all, the basic condition of executive work life. When managers make decisions, there is considerable evidence that they rely upon analysis, judgement, and bargaining. Explicit analysis is least frequently used. Are we, as nurses, secure enough in our identities to make decisions and to propose actions based on the intuitive mode? I don't know. Certainly, our history has been one of searching for certainty as if it were an identity.

What this discursion into left and right brain functioning and its relevance to nursing serves, is merely to raise the issue of weighing the rational and the nonrational. Traditional ways of managing organizations rely upon rationality embodied in bureaucratic structure, rules, and procedures which often constrain change. Somehow, the cycle must be broken, while retaining sufficient structure and tradition for continuity, without crushing creativity. Some corporations have isolated new experimental units, allowing them greater latitude for experimentation and a longer time line to produce results. For hospitals, this suggests full time project status as a means of experimenting with new programs and services, and perhaps the generation of quasi-independent subsidiaries once new programs and services have grown and proven their value. Surely nurses can head such programs and services.

For the Public Health Department, support for local health department and private sector innovation, and the development of special purpose quasi-public corporations have long term value. Internally, we are struggling with the need to maintain essential services not provided by the private sector (and perhaps not financially attractive to it). Our internal and external constituencies, like those of other health care organizations, are diverse, demanding, unified, and competitive with each other.

Our nurse members frequently become impatient, viewing our commitment to broader constituencies sometimes as betrayal of our own profession. For nurses to be most effective, they must change their frame of reference and redefine legitimacy as including collaboration with a very varied set of constituencies.

In brief, we are in the same boat and we must collaborate, sharing ideas, resources, legislative initiatives, and a certain amount of soul searching. We will not succeed in the future based on the methods and programs which brought hospitals to the point of financial insolvency and lost us public credibility in the past. We must engage in strategic thinking and planning, and realistically appraise the effects of cost containment. Yet, we can advance into a better future if we can generate and sustain organizational excitement, and if we can transform a survival mentality within nursing into more effective, flexible, and durable participation in organizational cultures.

Nurses have credibility problems to overcome as we become more effective participants in changing organizational cultures. Because nurses are mostly employed by hospitals which still function as sickness care centers, nurses have not been on the forefront of the wellness movement. Nurses have little control over their roles within most work settings because they are paid as employees rather than as autonomous health professionals rendering service on a fee basis. In independent practice, public health, home care and specialized clinical settings, greater independence does exist, but only a small proportion of nurses are so employed. Thus our past did not adequately train us to be entrepreneurs and risk-takers.

The past decade has seen a tremendous increase in physical fitness-oriented activities, diet modification and smoking cessation programs. Wellness activities have been sponsored by businesses, labor organizations, and communities. This health promotion trend is now connected with a nationwide effort to shift funding from sickness to health care as part of cost containment. Conservative political trends emphasize self-discipline and responsibility for the state of one's own health as part of "pulling one's own weight." While we can and do resist the politics of scarcity, we cannot deny that government is reducing human services funding. The middle class is refusing to support high health costs for the needy and the elderly, and dealing with preventable health problems has become a new national agenda. Nurses must admit this reality and find ways of dealing with it that enhance our opportunities to aid the less fortunate as well as the employed middle class.

Health promotion isn't usually central to the nurse's role because hospitals and physicians are not usually reimbursed for wellness services by third party payment sources. Wellness-related activities do frequently occur in pediatrics in traditional ways -- baby checkups and innoculations, for example. But, health promotion by nurses usually requires the "permission" of those with greater authority. When nurses have involved themselves extensively in wellness, it has usually been through collection of funds for health charities, volunteering for health organization boards and by informally advising friends, relatives, and neighbors. Thus, nurses in health promotion have been acting without independent authority and not in ways which are central to their professional positions. This must change, and very rapidly, if we are not to be left behind.

We do need new roles for nurses in health promotion. One of our colleagues, Claire Fagin (1984) has developed a model for effective collaboration between consumers and nurses which deserves attention. Implicity, what she is suggesting is that we need a new paradigm for broadening our integration of nursing concerns and those of the public. Professor Fagin has become involved with the National Consumer's League, America's oldest consumer organization. The League is providing workshops on Medicare and Medigap to inform elderly citizens, among its multitude of activities.

Professor Fagin spoke to the National Health Conference of the Consumer's League concerning Consumer's Choice. She was approached by an insurance company's senior consultant to join a coalition to help consumers become more active in the health care system. Professor Fagin was intrigued with the idea and researched consumer health, finding few references. She contacted every state nurses association, asking for information about nurses and consumer organizations in which they were active. With assistance from other faculty members, many individuals and organizations were contacted. Professor Fagin reached two conclusions. First, consumers need information and should become part of the decision-making process in health care as a group, and not simply as individuals who exercise informed consent or need disclosure of health risks in the community and at work.

Second, Professor Fagin found that state nurses organizations and individual nurses are substantially involved in consumer groups. The variety of areas of mutual activity includes committees against health fraud, perinatal organizations, coalitions for mental health, political activist health organizations, etc. There was negative comment that nursing organizations weren't always willing to participate in coalitions relevant to their mission and that women's health groups did not perceive nurses as especially effective consumer advocates. Overall, though, the successes unearthed by Professor Fagin were overwhelming, indicating substantial receptivity for nurses and nursing organizations if they choose to move forward in allying themselves with interested members of the public-at-large. She discovered tremendous creativity and commitment at the grass roots level in nursing in relation to consumerism.

Professor Fagin found that there were many potential agendas for nursing in illness and wellness, and while advocacy for the poor should not be minimized, issues which attract the middle class are vital for political success. While Professor Fagin is concentrating on working with the National Consumers' League in developing and implementing model programs, there are many needs which can be addressed by nurses working with other members of their communities. Information, development of a power base and publicity are all essential elements of success, if nurses are to impact the health care system in their own geographic areas. Without independent practice, there are still ways we can directly access health policy -- by influencing its implementation through consumer activism on the local, regional, and national levels.

Health promotion roles for nurses are also likely to expand, especially with the rise in discharge planning and patient education as hospitals discharge patients earlier. HMO's frequently emphasize health promotion and employ nurses in this area. Public organizations and employers can hire nurses to run their in-house wellness activities. Such roles should not be viewed as "outside" nursing simply because nurses have more than one constituency. These "bridge" positions can be useful to our clients and can build credibility for nursing as a profession.

The profession of nursing (and that is us collectively) can facilitate nurses' participation in health promotion. We can admit that we have not been associated with wellness by the general public. We have been upstaged by the entrepreneurial health educators, exercise physiologists, physical therapists, dietitians, recreation specialists, and sport psychologists whose major constituency appears to be the upper middle class. In nursing's effort to claim recognition as a profession, we have become ingrown, both educationally and in terms of our experiences working in full clinical and administrative partnership with members of other fields.

For full partnership in health promotion, nurses may need degrees in additional fields of study -- such as public administration, health administration, business administration, and recreation. Instead of fearing and prematurely mourning a loss in our numbers, we should retain confidence in nurses with broad educational exposure, fully legitimating their blended credentials. This has not occurred thus far. Nurses with MBAs, for example, are usually viewed as "tainted" and denied re-entry into nursing administration. They are much sought after by hospitals and health corporations. We should believe, until proven otherwise, "Once a nurse, always a nurse."

Nurses must also pay attention to their own health. You can't be taken seriously if you promote wellness and have obviously poor health habits. Nurses aren't credible if they remain passive in relation to their own smoking, low exercise levels, or predilection for junk food. We must find out why we take good care of others and not ourselves. Do we have self-esteem problems? Are we afraid that our relations with others will be changed if we disrupt familiar patterns by altering our lifestyles? Do we believe that physical activity is detrimental to femininity? The public won't believe we are committed to health promotion unless we practice what we preach.

All of this is reflected in nursing education -- where there are no wellness programs, where being sick is not questioned as a reason for missing school, where parties and vending machines reinforce poor diets and where health problems are almost always viewed as beyond the individual's control. Curriculum represents insularity, too, because only nurses teach. Medical schools hire scientists, management professors, psychologists, sociologists, and economists. Nursing schools only hire nurses, providing watered-down social science and management curricula which protects the students from co-called "corruption" by non-nurses!

To become a force in health promotion, nurses must reach out to potential allies outside of nursing, in other health professions and academic areas and in the general public. It isn't useful to make laudatory statements about what nurses have done or are doing in health promotion: There is too little being done for massive impact and our efforts are frequently fragmented or expressed by the lone individual. We should plan strategically on a regional level so that a "critical mass" of nurses can influence the balance of power in health care and especially in selected areas of wellness. We can't expect a weakened national organization to do this for us. The new ANA bylaws decentralize authority to the states, and state associations are most concerned about labor relations. Regional coalitions, for example, can identify mechanisms by which nurses can join coalitions proposing cost-effective health promotion activities for clients. We must also decide who our primary clients in each situation are: individuals or organizations or entire communities.

We should seriously consider encouraging colleges of nursing to hire nurses with advanced degrees in other fields, as well as those who have never been nurses. This may help us in the future so that we are not left behind, as we have been by the wellness movement of the past decade. Surely, we do not value indoctrination over academic quality. If we want the best and the brightest to continue to choose nursing, we must reexamine what we are offering.

Perhaps more importantly, nurses need to become more secure about their own value. Only then can we focus upon our economic, political, and societal environments instead of our internal power struggles and efforts to reassure each other of our own significance. Too much effort is directed toward internal validation concerns. Instead, energies should go toward the study, use, and acceptance of power. We must learn the ground rules of the male corporate world so that we can separate bureaucratic designations from real authority and influence. We must be able to utilize the male power structure to accomplish traditional and valid female goals -- nurturance, compassion, and comfort for the body and the soul.

This is our greatest challenge yet, to move beyond professional insecurity and provincialism in order to influence health policy and to build broader roles in health promotion. In the process, we can potentially avoid the shrinkage of professional nursing under cost containment and we can better serve the public in all settings -- the workplace, the home, the hospital, and the community.

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Health Promotion: Directions for Nursing Research

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Health promotion has been a fundamental concept in public health for decades. However, the promotion of health has received little attention nationally in relation to prevention and even less attention when compared to treatment of illness. In 1974, the Canadian government published A New Perspective for the Health of Canadians, a landmark document which identified new directions for health care in North America. In 1979, health promotion assumed a central position in evolving national health policy for the United States with issuance of the Surgeon General's Report, Healthy People, and the companion document, Promoting Health/Preventing Disease: Objectives for the Nation. In subsequent years, the federal government established an Office of Disease Prevention and Health Promotion in the Office of the Assistant Secretary for Health (OASH) and a Center for Health Promotion and Education in the Center for Disease Control (CDC). During the same period of time, advances occurred in prevention. In 1984, the United States Prevention Task Force was established to develop recommendations for the appropriate delivery of preventive services in clinical settings. Also in 1984, Congress passed legislation to establish prevention centers in selected Schools of Public Health throughout the nation.

While prevention and health promotion have been given increased attention in federal health policy, neither has fared well in the federal health budget. It is estimated that no more than 2.5 percent of national health expenditures support prevention, and less than 0.5 percent is spent on health promotion. This means that 97 cents of every health care dollar is spent on treatment of disease (Polakoff, 1982). The federal government has allocated billions of dollars for curative research, while minimal investigation efforts have been funded that focus on exploration of "healthy human functioning" and its correlates. Such skewed distribution of health research monies and health care dollars has created a national dilemma of unprecedented proportions.

With the rectangularization of the age distribution in the United States, that is, more people surviving into the "later years," failure to keep people healthy into old age has created an overwhelming demand for treatment of illness and illness care. By the twenty-first century, this demand will become unmanageable fiscally. The only hope for avoiding such a catastrophic economic situation in health care is to keep people healthy as long as possible. Major emphasis on research in health promotion and the delivery of health promotion and prevention services has the potential for expanding the productive and satisfying years of the lifespan and compressing the period of disability and senescence for many Americans.

At this point, it is important to differentiate between health promotion and primary prevention.

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Health promotion consists of activities directed toward increasing the level of well being or actualization of a given individual, group, community, or society.

Primary prevention consists of activities directed toward decreasing the probability of illness in a given individual, group, community, or society, including active protection against disease or other stressors. (Primary prevention is differentiated from secondary prevention, which is early detection and treatment of disease and from tertiary prevention, which consists of minimizing disease sequelae.)

The major difference between health promotion and primary prevention is not the observed behavior but the source of motivation for specific health and health-related actions.

Health at varying levels is a continuing human experience. It is a primary continuum on which individuals move or fluctuate throughout the lifespan. Acute or chronic illness can be superimposed on the health experience of individuals and can serve as a barrier to health seeking behaviors. Health can emerge more fully when the insults of illness are minimized or removed. Health promotion and illness prevention are complementary concepts. Both must be given attention in order to optimize the quality of human life and extend longevity for a significant portion of the population.

The generation of knowledge about health promotion will require the energies and competencies of scientists in many fields. No profession has a monopoly on health promotion research or practice. However, each profession must identify how it can contribute best to health promotion as a new field of inquiry. Critical questions that the nursing profession must address include: What are the responsibilities of individuals, families, groups, and communities in promoting health? What role should nurses assume in the redirection of society toward healthier lifestyles? What is the role of social and health policy in supporting healthful life patterns?

Little is known about the behavioral and biological mechanisms underlying healthy functioning. We also do not know: What the human potential for maximizing health is; to what extent the life span can be extended; what behaviors promote health; what strategies families, organizations, communities, and society can use to support healthful lifestyles; and what health promoting interventions are effective not only in increasing longevity but in improving the quality of life and the realization of human potential. Thus, my comments througout the rest of the presentation will focus on nurse scientists' contributions to the field of health promotion to date and directions for future research efforts.

Conceptualization of Health

In the 1970s, many nurses addressed the definition of health. Some nurses such as Oelbaum (1974) attempted to operationalize the concept.

However, the most notable work on the concept of health has been the specification of four models for health by Smith (1981). The models she proposed are as follows:

1. Clinical Model - absence of disease
2. Role Performance Model - ability to carry out social responsibilities
3. Adaptation Model - flexibility to adjust to the demands of the environment
4. Eudaimonistic Model - exuberant well-being

The models are hypothesized as being progressively expansive with the eudaimonistic model incorporating all of the previous models but adding the dimension of exuberant well-being. Laffrey (1982) has constructed the Health Conception Scale to identify the definitions or models of health espoused by individuals.

Further theoretical and empirical work is needed to clarify the multi-dimensional nature of health as a human experience. In addition, health status indices need to be developed to measure various aspects of health in individuals, families, and communities.

Testing Models for Health Promotion

The Health Belief Model was originally developed to predict compliance with preventive health behaviors such as being immunized, obtaining a chest x-ray, having a pap smear, or participating in other screening programs for early detection of disease. Recently, the model has been used to predice compliance with medical regimens. The Health Belief Model is illness-oriented and, thus, is not an appropriate paradigm for the study of health promoting behavior where there is not a specific disease referent. Nurse researchers have used the model as a theoretical framework for the study of preventive behaviors (Brown, Muhlenkamp, Fox, and Osborn, 1983; Hallal, 1982; Sennott; 1980; Stillman, 1977).

The Theory of Reasoned Action, a social psychological model, has been used by some nurse researchers to explore health behavior (Miller, Wikoff, McMahon, Garrett, and Johnson, 1982; Pender and Pender, 1984). In 1982, Cox proposed an Interaction Model of Client Health Behavior to explain relationships between characteristics of the client, the nature of the client-provider interaction, and subsequent client health behaviors. The same year, Pender (1982) proposed the Health Promotion Model as a conceptual framework for explaining the occurrence of health promoting actions. The model focuses on cognitive/perceptual factors such as perceived health status, perceived efficacy and perceived benefits of taking action as key determinants of health promoting behavior patterns. The explanatory and predictive value of the Health Promotion Model is being tested in a three-year research program funded by the Division of Nursing of the U.S. Public Health Service.

Development of models that accurately describe the antecedents of health promoting behavior among individuals and families is critical as a basis for structuring effective nursing interventions. Nurse scientists and clinicians should focus increased effort on testing theories and models that address the predisposing and enabling factors affecting acquisitions and maintenance of health-enhancing attitudes, values, and behaviors.

Development of Instrumentation

A number of nurse researchers have focused their efforts on clarifying health-related concepts. Kearney and Fleischer (1979) developed an instrument to measure the complex concept of self-care agency. Self-care agency, as defined by these researchers consists of: an attitude of responsibility for self, motivation to care for self, application of knowledge to self care, the valuing of health priorities, and high selfesteem. Denyes (1980) developed an instrument to measure self-care agency of adolescents. Currently, 75 percent of health care in the United States is self-care. Since the importance of such care is increasing as people assume more personal responsibility for health, nurse researchers need to give greater attention to the exploration of self-care competency and behavior of individuals and families.

Lifestyle is another key concept in health promotion that needs further explication. Changes in lifestyles are identified in current literature as major strategies for improving the health status of individuals, families, communities, and society. Ironically, little is actually known about lifestyle: what it is, what changes are health promoting, and how to help people make positive changes.

Muhlenkamp, Hubbard, and Brown (1983) were the first nurse investigators to engage in extended study of the concept of lifestyle, in particular, health promoting lifestyle. They developed and tested the Personal Lifestyle Questionnaire. Currently, my colleagues, Dr. Susan Walker, Dr. Karen Sechrist, and I are working on the development of a Health Promoting Lifestyle Profile that will allow us to test the extent to which individuals' attitudes and behaviors are supportive of healthful and productive living. To determine the reliability and factor structure of the instrument, we administered the profile to approximately 1,000 adults of varying ages. Faculty at the University of North Dakota assisted us in data collection efforts for which we are most appreciative. The instrument will be available for use in the near future.

Control of personal health status is another variable that has received the attention of nurse researchers. Saltzer (1978) developed the Weight Locus of Control Scale to measure beliefs concerning control of body weight. Saltzer based her work on that of Wallston, Wallston, and DeVellis (1978), who developed the Multi-Dimensional Health Locus of Control Scale. Currently, Dr. Bob Zerwekh and I are pilot testing a Physical Fitness Locus of Control Scale. It seems likely that specific locus of control scales will be needed to measure accurately the extent to which people believe they can control various aspects of health, e.g., weight, physical fitness, stress level. Greater attention of researchers and clinicians to beliefs of clients about personal control could generate important knowledge on which to base health promotion intervention strategies.

Measurement tools are also needed to assess the following phenomena: physiologic indicators of health status, health knowledge, health attitudes, health values, health beliefs, and acquisition and maintenance patterns for health behavior.

Testing Health Promotion Strategies

Descriptive research is an essential base on which to build experimental and quasi-experimental studies of the impact of health promotion strategies on individuals, families, and communities. No studies of health promotion strategies and their impact on specific populations or large groups have been conducted by nurses or other health researchers to date. During an extensive review of research prior to preparation of the chapter on Health Promotion and Illness Prevention for the Annual Review of Nursing Research (1984), I did not find any evaluative studies of health promoting interventions. All large scale studies that were identified focused on prevention of specific diseases: either risk factor reduction or early detection. The intervention studies conducted with children, such as the Know Your Body program of the American Health Foundation (Williams, Carter, Arnold, and Wynder, 1979) focused primarily on reduction of risk for cardiovascular disease. Focus on prevention as opposed to health promotion was apparent also in studies of adults which were conducted by nurses. Quaal (1981) explored the relationship between physical fitness activity and cardiovascular risk factors. Edwards (1980) reported the results of teaching women breast self-examination using four different instructional methods to determine if any of the approaches were superior in promoting practice of breast self-examination for the early detection of cancer. Stryd (1982) evaluated the impact of risk assessment and counseling on the risk status and potential life expectancy among professional, technical and office employees. Sullivan (1979) incorporated some measures reflective of health promotion as opposed to prevention in her study of the response of senior citizens to a comprehensive health program. She explored the impact of physical evaluation, counseling, teaching and outreach work on the health status and sleep patterns of an elderly population.

Nurses engaged in practice and research must collaborate on large scale projects to explore the effects of health promoting strategies on various age groups and on individuals as well as aggregates. Studies must be conducted that assess the impact of interventions such as lifestyle assessment, health promotion planning, nutritional modification, and social support development on health behaviors and health status of various populations.

Economy of scale is a major consideration for health promotion strategies. If group approaches are as effective as individual approaches in facilitating lifestyles change, aggregate methods will most likely be preferred to individual methods due to the cost effectiveness of the former.

Community-based or population-based intervention models focused on health promotion should be implemented and evaluated by community health nurse specialists and nurse researchers. Studies such as the Stanford Three Community Survey and the Five City Project, which have focused on decreasing risk for cardiovascular disease and on subsequent morbidity and mortality, can be viewed as research design prototypes for community-wide health promotion intervention projects. It would be a major contribution to the field of health promotion if a cadre of nurse researchers, nurse clinicians and other health professionals would collaborate in the design of an experimental study using three to six communities and focusing on the use of mass media and group strategies to promote healthier lifestyles. Strategies could include use of mass media to provide information about topics such as nutrition, physical fitness, stress management, and interpersonal relationships. In addition, group, family, and organizational support networks could be used to reinforce mass media programming. The impact of the interventions could be evaluated by the extent of short- and long-term lifestyle changes within the experimental communities. Such large scale studies will be critical to understanding the community dynamics of health promotion.

Study of Health of Specific Groups

Nurse scientists have contributed to the generation of knowledge about healthy functioning of specific populations. Contributions of nurse scholars in the area of women's health are particularly notable. The menstrual and menopausal experiences of women as developmental events have received considerable investigation attention (Voda, 1980, 1981; Woods, Most, and Dery, 1982). Parenting as an experience of women has been studied by McBride (1973) and others. However, Stevenson (1983) notes the lack of research on both men and women during young and middle adulthood, in particular, the healthy functioning of this age group.

Both Aamodt (1972) and Natapoff (1978) explored children's perceptions and views of health. Findings from these studies could be used to construct tools to measure developmental changes in the health beliefs of children. While researchers have focused on how health education changes the health knowledge of children, the effect of education and other health promotion interventions on the health attitudes, values, and behaviors of children have received minimal attention. Since increased knowledge may not result in behavior changes, studies that fail to look at short-term and long-term behavior alterations fall short of evaluating the most important outcomes of health promoting interventions.

Developmental changes in families have been studies by Fawcett (1977) Hoskins (1979), Roberts and Feetham (1982) and Knafl and Grace (1978). The exploration of family health and well-being should be given greater attention by nurse researchers. Family health must be viewed as processes within the family as a unit or system rather than as a composite of individual members' health status.

Health promotion among the elderly is a fertile field of study that has received minimal attention from nurse researchers. Investigations in this area could promote a better understanding of what is normal aging compared to pathologic aging. In addition, we could learn much about enhancing the quality of life and productivity of the old (65-85 years) and the old, old (85 years +) segments of our population.

Support of Health Promotion Efforts

An early visionary in identifying appropriate content for health promotion in nursing curricula was McElmurry-LaBelle (1973). She described the major theoretical foci for such curricula in her doctoral dissertation in the early 1970s. Her work emphasized the importance of sound educational programs as prerequisite for developing a cadre of skilled nurse researchers, theorists, and clinicians in the field of health promotion.

It is imperative that fundamental concepts of health promotion be integrated into undergraduate programs as a basis for practice in community settings and as a foundation for graduate study. In addition, educational emphases in health promotion at both the masters and doctoral levels needs to be developed. The focus for health promotion at the graduate level can be any of the following: individual, family, community, environment, society, or any combination of these foci. The knowledge and skill base needed to develop, implement, and evaluate effective health promotion intervention/strategies varies depending on whether care is individual-, aggregate-, or population-based. Graduate programs in nursing are faced with the challenge of both integrating current knowledge about health into meaningful learning experiences for students and preparing scientists who will contribute to evolving knowledge about healthy functioning.

Administrators in both educational and clinical settings can play a vital role in increasing research by nurses in the area of health promotion. Deans and Directors of Nursing can support faculty/clinician preparation of grants that focus on the study of health rather than illness and on health promotion rather then curative care or disease prevention. In universities and clinical facilities where health promotion is of high interest, clinicians and faculty should be encouraged to collaborate in applying for a program grant which consists of several studies with a central theme. A research program promotes colleagial support and study of large samples from which definitive conclusions can be drawn. Where feasible, nursing research centers should be established that focus on the systematic study of health and health promotion. While the investigation of illness and illness-related concerns will always be important in nursing, efforts of nurse researchers should be reapportioned so that health promotion is given increased attention. In the twenty-first century, "health," rather than "illness," should be the primary frame or context for health care.

Schools of nursing and nurses in health care agencies should seek to build cooperative relationships with industries and corporations interested in health promotion for their employees. Schools/Departments of Nursing can provide the resources to assist industry in developing and evaluating programs in health promotion.

During the past year, I had the opportunity to collaborate with Signature Corporation, a subsidiary of Montgomery Ward, in a ten-month study evaluating the impact of the employee fitness program on absenteeism, productivity, job-related strain, and anxiety. The university provided statistical and research expertise while the corporation provided expertise in fitness programming, exercise record maintenance, and work measurement. Both the corporate and academic partners benefited from the research project. The corporation completed an evaluation of their fitness program at reasonable cost and university personnel were able to be involved in a meaningful research project in health promotion with access to adult subjects.

Many areas in health promotion are ripe for the investigative efforts of nurse scientists. Some of the areas that need to be systematically studied include:

1. Fundamental mechanisms underlying human health processes.
2. Behavioral phenomena underlying healthy functioning in families.
3. Models that explain or predict the extent to which individuals/families engage in specific health promoting behaviors or healthful lifestyles.
4. The role of families and social groups in facilitating lifestyle change.
5. Development and refinement of tools to measure health and health-related variables.
6. Design of instrumentation to measure the health status of communities and populations.
7. Testing of health promotion intervention strategies for individuals and families.
8. Conduct of community-based health promotion intervention trials.
9. Exploration of health beliefs and health promoting behaviors among families/groups with varying cultural and ethnic orientations.
10. Demonstration and evaluation of delivery systems for the provision of health promotion services.
11. Development of methods to measure short-term and long-term effects of health promoting interventions on lifestyle, and on ecologic, social, and economic environments.

Many professions will contribute to the development of knowledge about health promotion. Thus, interdisciplinary efforts in research should be encouraged. Through such work, the competence of multiple professionals can be brought to bear on the exploration of healthy functioning and the identification and analysis of health promoting behaviors. Demonstration projects utilizing interdisciplinary teams for the delivery of health promotion care should be developed and tested.

Still another approach to the support of health promotion efforts in nursing is the establishment of inter-university exchange programs that provide research or clinical clerkships for students in the area of health promotion. These arrangements can be made on an exchange basis or for tuition reimbursement. Because educational and research resources in the area of health promotion are sparse, access to such resources may only be available to graduate students in nursing through such an exchange arrangement.

The challenge of understanding health, health promoting behaviors, healthful lifestyles, and health supporting environments is before us. In addition, the following policy issues in health promotion must be addressed:

1. The appropriate self care/professional care mix to optimize health
2. The economy of scale for delivery of health promotive care
3. The integration of incentives for healthful lifestyles into health care financing
4. Source of payment for health promotion services
5. The appropriate mix of health professionals on the health promotion team to provide cost effective, quality care.

Nurse researchers, educators, administrators, and clinicians are competent to address the many research and policy issues inherent in health promotion. The concerted efforts of the nursing community can move health promotion from a **policy reality** to a **practice reality**. Let us accept the challenge.

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The Wellness Payoff - Benefits for Clients and Nursing

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A revolution in health care is occurring. We have entered a new era as people become concerned about cost, accessibility, and quality of care. This is resulting in an explosion of interest in health promotion. The reason for this is, first of all, widespread dissatisfaction with the medical care system. The medical model is inadequate because of its underemphasis on disease prevention and wellness. As Ivan Illich said, "The medical establishment has become a major threat to health" (Illich, 1976). The traditional medical system is fragmented, lacks continuity, and is overspecialized, so that care has become depersonalized and dehumanized.

A second reason is the skyrocketing of health care costs, which now consume 10 to 11 percent of the country's gross national product. Current health care costs about $1,000 per person, per year; and if this continues, by 1990 it will cost $3,000 per person. Doctors and hospitals depend on technology too much. They use too many drugs, take too many x-rays, and do too much surgery, but have lost the ability to communicate and provide empathy. Five percent of the nation's working force is in the health care industry. Even with this sophisticated medical care system, the United States ranks 22nd in life expectancy among the civilized countries of the world.

A third factor is the availability of an increasing amount of epidemiologic data on risk factors (Siegfried, 1982). In order of importance these are smoking, alcohol abuse, obesity, excess consumption of salt, fat, and sugar, not having periodic screening tests, lack of adherence to the automobile speed laws, and failure to wear seat belts.

Fourth, the broad dissemination of health information in the media confirms the trend toward health promotion. The public, however, if it gets all its information from the media may consider AIDS, genital herpes, and toxic shock syndrome the major health problems. These diseases receive publicity out of proportion to the incidence and impact on public health. Where are our priorities? Remember how excited and agitated we were concerning the Tylenol™ problem? There were ten deaths. Yet, there are 30,000 cases of lung cancer in women a year, smoking causes 1,000 premature deaths daily in the United States, alcohol and tobacco related illnesses combined account for 44 percent of all hospital admissions, and there are 500,000 motor vehicle deaths a year. Advertising plays an important role in determining what is important. Fifteen to twenty percent of the ads in magazines are for cigarettes.

And, the last reason is, the rise of the wellness and medical self-care movements. In 1979 the Surgeon General published a book called Healthy People (1979). It was really about diseased people. It listed eleven health problems deemed eligible for high national priority. These were: alcohol related, cancer, cardiovascular, dental, motor vehicle accidents, infant mortality, smoking related, stress related, vaccine preventable, childhood diseases, and work-place related diseases. All of these are lifestyle problems. All are potentially preventable.

What are the diseases of lifestyle? Diabetes, most arthritis, cardiovascular disease, allergies, ulcers, colitis, and cancer - all chronic disorders. Future improvements in American's health will come from changing self-destructive health habits.

Data related to some of these chronic diseases are as follows: heart disease - 57 percent due to lifestyle, cancer - 37 percent, and cirrhosis - 70 percent. It is true that heredity is a significant factor in these diseases. As health educators, we cannot do much about heredity; but we can do something about lifestyle problems.

What do we mean by wellness? Wellness does not necessarily mean being able to jog five miles a day at age 60 - it may mean walking briskly one hour. It does not necessarily mean awakening every morning and performing 30 minutes of calisthenics - it means keeping in shape so you are limber. It does not mean never getting sick - it means fewer illnesses and avoiding chronic degenerative illness. Wellness is well-being. It is not the absence of disease, nor the achievement of longevity, although those do indicate something about health. Ardell's (1979) definition of wellness is "A lifestyle approach for realizing the best potential for well-being". Dunn's (1961) definition is: "Maximizing the potential of which an individual is capable, within the environment where he is functioning". Travis (1977) looks at health as a continuum with premature death at one end and high-level wellness at the other end. In the middle there is a neutral or zero point, a point at which one is neither sick or well. Every living person, at any given moment, can be placed on this scale of health. The circumstances of life and the way one lives largely determines where that person is on the scale at any particular time. On the left end of this continuum the traditional medical care system takes over. You have symptoms, illness, or disability and you go to a physician. The neutral point is the place where your physician usually leaves off when you are 'better'. To the right is the largely unexplored area of positive wellness, where we undergo education, growth, and self-actualization. This is the area where the payoffs for clients and nursing begin. We must look at health no matter where a person is on the continuum.

There are many differences between illness care and wellness care. Illness deals with disease and organ focus, while wellness care focuses on the whole person. Illness is dealt with by the physician, it is pathological, technological, and episodic. It costs billions of dollars a year, has a short-term payoff and is established. Wellness care, on the other hand, is non-pathological, human, and on-going. It deals with self-responsibility and has a continual payoff. There are limited funds available and it is just emerging.

What are the dimensions of wellness? Physical fitness, stress management, nutritional awareness, environmental sensitivity, with self-responsibility the key to all (Ardell, 1979). We have to face the fact that 90 percent of the people do not want to take responsibility for their health. They want cures. Yet, self-responsibility is fundamental to the wellness lifestyle. Health has become a function of personal responsibility, but people need the knowledge of how to make personal health decisions. You decide whether you smoke, how much you exercise, what you weigh, how much you drink, what drugs you take. You decide whether to get a venereal disease, to get pregnant, whether to see a doctor, and whether to follow his advice.

Every day we make hundreds of decisions, maybe thousands, that affect our health. Do we walk to the store or drive? Do we have fruit or ice cream for dessert? Do we spend our recreation time in front of the television or out walking? Do we let pressure build up excessively and turn to drugs or alcohol or do we manage stress in a non-destructive way? If people were more actively involved in promoting their own health, rather than expecting the doctor, hospital, or government to take responsibility, they would be healthier, medical costs would go down, and medical sources would improve.

Nutritional awareness is not just dieting. It is understanding the relationship of food to your health. Much chronic illness is related obesity, consuming too much salt, sugar, or fat, alcohol, and lack of fiber in the diet. As a result of diet, we have hypertension, diabetes, heart disease, cancer, tooth and gum problems, strokes, diverticulitis, osteoporosis, hemorrhoids, and constipation.

We cannot live without food - it is that simple. However, the act of nourishing our bodies is not simple anymore. Technology has given us many food products, and the media woos us to buy them. Our habits have changed so that we are eating fewer dairy products, vegetables, and fruits, but consuming more soft drinks, desserts, and snacks. Consequently, our calorie intake is the same, but we have decreased expenditure of calories, the source of our protein has changed, we eat more fat and sodium, and we consume less potassium and calcium.

In 1900 most foods were grown and processed at home. In 1940 only 10 percent of the food was processed, while in 1980 sixty percent was. Apples lose half of their vitamin C in storage, canned carrots three fourths in processing, 24 naturally occuring nutrients are removed in the processing of white flour, frozen peas lose 83 percent of their vitamins in the freezing. Canning can cause a loss of 30 percent of the vitamins, sterilizing, the loss of 25 percent more; heating, the loss of another 12 percent; and if you throw out the liquid, you lose 27 percent more. TV dinners have few vitamins left and are loaded with salt and preservatives.

Our processed food is full of additives. Take "Egg Beaters™" as an example. If rats eat eggs, they live out a normal lifespan, but if they are given a diet of "Egg Beaters™", they die within one month (Shealy, 1982). Additives and preservatives present a hidden nutritional danger. We need to learn to read labels, and to teach our clients the same.

Some of our nutritional problems are due to eating out. Forty percent of the food budget is spent eating out and then we get too much salt, fat, sugar, and calories. Pizza parlors are a good example. Pizza is a good food if you make the crust with whole wheat flour, use real tomatoes, cheese, and meat. Actually, they are most often made without real tomatoes, and with added sugar and chemicals.

Many people do not get enough variety in their diet. They may habitually eat only ten or twelve foods over and over again, and because of that may not get the nutrients they need. There are 15,000 items in a grocery store, but the average person buys only about 150.

Sales of soft drinks are the highest they have ever been. Intake has increased 300 percent in 40 years. Besides sugar this frequently increases the intake of caffeine, too. While caffeine has not been proven to be harmful to adults, generally, it is not known what effects are on growth and development.

Alcohol provides empty calories and is related to heart disease, liver disease, hypertension, and neurological damage. Alcohol should only be used in moderation, if used at all. Moderation means only one ounce a day, or the amount in two ounces of hard liquor, two glasses of wine, or two beers. There is some evidence that moderate drinkers are healthier than teetotalers. Alcohol does raise the high-density lipoproteins but possibly not the fraction that helps prevent heart disease. It has also been found that moderate drinkers handle stress better than teetotalers. It is speculated that moderate drinkers are moderate in all ways, which may help them cope with stress better. The key is moderation.

Exercise is the most important thing you can do to prolong your life. It is the closest think to an anti-aging pill that we have. Exercise results in reduced blood pressure, strengthens the heart muscle, expands the lungs, and increases bone mass. Exercise improves the digestion, lessens fatigue, reduces depression, helps keep the weight down, and improves well-being. Yet, we have been reshaped to be sedentary. We have power lawn mowers, dishwashers, snowblowers, electric tooth-brushes, and electric garage door openers. These things have made life easier and more convenient, but they have contributed to the flabby condition of so many people.

Why do runners run, bikers bike, and walkers walk? Usually not because they want to be healthy or to live longer, but because they feel better. They think better, they deal with people better, they handle stress better, they can fit into a size 10 instead of a 14, and it is fun. Yet, many people claim they do not have time to exercise. Thomas Jefferson said, "Those who do not have time for exercise now will have to find time for disease later on". You are not getting enough exercise if you are not expending a total of 2000 calories a day. But whatever physical activity you do, make sure it is something you like.

Stress management is learning how to deal with stress so it does not become a health risk. In 1951 the Cecil and Loeb Textbook of Medicine claimed that 60 percent of all illness was psychosomatic. More likely it is 80 percent. We are under stress all the time. It is a part of living. Primitive man had his bengal tiger, but modern man has his bengal tigers too - too much paper work, achievement oriented world, traffic jams, etc.

There are three major types of stressors: major life events, chronic life conditions, and everyday hassles. Stress is a major cause of disease. When under stress, the heart rate goes up, breathing increases, metabolism increases, there is increased blood flow, and the blood sugar rises. This makes you ready to fight or flee. Yet, how many stressors can you run away from? So you go on from day to day with stress damaging your body.

In managing stress, evaluate the amount and sources of stress in your life, take steps to remove the sources or create a new relationship with them, and learn relaxation exercises to help the body cope. Don't procrastinate, learn to delegate, cut down on the number of meetings, stop unrealistic expectations, don't overreact emotionally, and learn to gain real control. You should make stress a cue for relaxation, rather than anxiety by finding what works for you. It may be medication, progressive relaxation, biofeedback, autogenic training, or exercise, but avoid a chemical haze. The choices that we make about how to handle situations determine the effect that any stress will have.

The environment will probably kill us before everything else combined. Environment means all external factors, natural and man-made, that affect health and well-being. Environmental health hazards include social influences, trauma, infections, pollution, radiation, noise, harsh sun, chemicals, and many unknowns. Our lifestyles and physical comforts depend on automobiles, trucks, and petroleum products, so how can we achieve a healthy lifestyle in a polluted environment? In the last few years the Congress has passed federal laws to help reduce pollution and restore it to a more healthy condition. However, we cannot expect the government to solve the country's pollution problems. Solutions to environmental problems will require major changes in our values.

What are the payoffs for changing one's lifestyle? There will be increased confidence of the consumer in assuming self-responsibility for health. People aren't aware of the control they have over health. As they start to take that control, there will be a shift in what people want. Health promotion will supplement the standard diagnosis and pharmacology of conventional medicine with nutritional counseling, physical exercise, environmental assessment, spiritual counseling, stress control, and self-care. As people realize that a person's health is primarily the responsibility of the individual, they will switch from a curative health model to a preventive one. They may even seek alternative therapies like acupuncture, homeopathy and herbal medicine. There will be improved consumer satisfaction with the health care system and more efficient use of the system. Costs will be contained, job performance will be improved, and there will be healthier, more productive individuals. A good lifestyle will minimize the risk of illness, it will increase the feelings of joy and satisfaction in the adventure of living, and the ultimate payoff will be less premature death.

The popularity of the wellness movement reflects a growing dependence on our society for expertise. There is a large group of untrained persons saying they are wellness educators. Nurses can provide that expertise. Nurses have a pivotal role in health promotion because clients see nurses as a desired source of health information. They regard nurses as knowledgeable sources who possess the necessary communication skills. In addition, the nurse is the only health professional able to interact with the whole spectrum of health and disease. More than any other health professional, the nurse can interrelate health education, preventive care, and health promotion.

Take the heart patient, for instance. The nurse can provide health education about the pathogenesis of heart disease. From this base, the nurse can encourage the person to lose weight, start an exercise program and she can encourage enrollment in a cardiac rehabilitation program, and even supervise one. The total approach to the care of the person can make an impact on the disease process and help the person adjust to illness.

One of the first things we have to do is to be role models. If you are smoking, stop or cut down. If you are overweight, lose weight, take a look at your diet, develop cardiovascular fitness, and use seat belts.

Second, take an active role in the education of the community, as well as the individual client. We can identify health needs and populations, such as smokers, alcoholics, people with chronic disease, and senior citizens. We can develop programs and provide information to help healthy people stay well. We can teach skills, give lectures, and write newspaper articles. We can help people focus on how they can conduct their lives, suggest other options, and support them when they try the other options. We can help people develop skills in self-care, which is a process which enables a lay person to function on his or her own behalf in health promotion, minor illness detection and treatment, and prevention of disease disability. Our role is not to tell clients what to do, but rather to give information and facts. Individuals are responsible for decisions about their own health and they can assume the responsibility for meeting potential health needs.

Third, collaborate with other health professionals in order to meet the health care needs of clients. Work with dieticians, physical educators, physicians, and other health professionals. The holistic system focus is dependent on the team approach. The nurse has the advantage of being able to deal with specific knowledge about each individual client and can adapt the intervention to the individual.

Fourth, market a healthy lifestyle. Strive for changes in legislation such as more meaningful warnings on cigarette packs and restrictions of advertising for both alcohol and cigarettes. Work with insurance companies to get reduced premiums for nonsmokers and nondrinkers. Work for policies where tobacco farmers are paid to raise edible grain instead of being subsidized to grow a toxic plant. Cigarette smoking should be discouraged, but it is a profitable business. The cigarette industry is pampered in this country by government at all levels on the ground that it contributes to tax revenues, but actually it is a net drain on those revenues. It literally costs the government more money to maintain cigarette smoking than what that same government receives from the sale of cigarettes. Government expenditures comes in the form of medical care for cigarette-induced illness, loss of tax revenues from disability and from loss of productivity.

Health must be treated as a product - it must be sold. The problem is that no one wants to pay for it. Wellness should be sold as a therapy, not as a preventive. People have to think that they are being treated, not protected. It is very hard to sell prevention, for which there is no reimbursement, when the consumer knows that the problem you want to prevent will be covered by insurance. The rewards of drug treatment and surgery are immediate, but the rewards of prevention won't be reaped for twenty years. Wellness is still too ill-defined.

Fifth, develop evaluation methods. Do research. How do we measure health? How can we affect those ways of living which seem to exert such strong influences on health? Do improved ways of living always improve health? Does jogging really protect the heart? To what extent? In which people? Under what circumstances? We have to be able to answer some of these questions if we are going to approach this issue scientifically.

Can we make a difference? In 1970 the percentage of hypertensive clients detected, treated, and controlled was 15 percent. Today it is 50 to 70 percent. The prevalence of smoking among adult men has decreased from 54 percent in 1964 to 38 percent in 1971. The U.S. Department of Agriculture polled households to see if they had changed their diet for health reasons, and two-thirds had. Serum cholesterol levels of the population have declined from 235 mg/percent for middle-aged men to 215 mg/percent. There has been a decrease in mortality and morbidity of strokes and heart disease.

Lifestyle is the key to health. This approach may give us greater happiness and greater ability to cope with health problems, but we can never say that it will free us from disease. We must remember that we are mortal and there will always be ten leading causes of death. Still we need good relationships with others and the environment, we need to be concerned about what we put in our bodies, and we need to be physically active.

Nurses can promote personal habits favorable to health, they can create favorable physical and social environments, they can offer preventive services, and they can help people develop a positive and creative mental attitude. Nurses cannot effect a higher state of wellness for the population without the cooperation and effort of all individuals involved, but we do have a responsibility to serve as leaders.

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Health Promotion Service: Evaluation and Impact Study

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The cost of health care is out of control and the health care delivery system is on the verge of the most drastic changes that any of us have ever witnessed. It is critical to nursing and to the public that nurses understand and actively participate in this process of change that will ultimately restructure the entire health care delivery system.

Everyone is aware by now that costs in the health care system are increasing at rates much higher than the rest of the economy (Cohen, 1985). Nurses must have an understanding of how the health care delivery system is changing in response to this problem and the current and potential impacts of nursing jobs, practice, and the health care of our clients. The cost of health care has prompted business, government, and consumers to take a hard look at the health care system and to take actions that had not even been considered just a decade earlier. Nursing must begin to take actions of its own; on behalf of the profession and more importantly on behalf of the clients it serves. Let us take a look at the problem, its effects, some of the actions already occurring, and predictions for the future.

Employers' health care bills have been doubling in less than three to five years. The annual health care expenditure in the United States rose to $355.4 billion in 1983 and accounted for 10.8 percent of the gross national product, a figure that the Health Care Financing Administration had predicted would not be reached until the year 1990 (Andersen, 1984; Cohen, 1985). In response to this drastic increase, employers have reduced health care benefits opting for higher deductibles, more co-pay, and comprehensive major medical plans in place of first dollar coverage (Clark, 1984; Employee Health Fitness, Sept. 1984). In some cases plants have been closed that were marginally productive but became a liability as a result of health claims costs.

Hospitals have been somewhat immune until recently. Last fall in Indianapolis, Michael Annison, President of the Westrend Group and former Vice-President of the Naisbett Group that produced Megatrends, spoke at the annual meeting of the Indiana Hospital Association. Mr. Annison said, "the health care system is fundamentally out of step with the rest of the country." He believes that although economic times are currently tough for hospitals, that 1984 will be looked back upon as a golden year and

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that as many as 50% of hospitals now in business will be merged, bought out, or bankrupt in the next five to seven years. Those that fail, according to his predictions, will be those that refuse to recognize that change is necessary. As with other industries, Mr. Annison suggests that health care costs must truly come down as opposed to the current attempts to slow the rate of increase.

In a recent survey of 1,000 health professionals conducted by Arthur Andersen and Co. for the American College of Hospital Administrators, results suggested that quality health care will soon be the privilege of the wealthy (Andersen, 1984; Stegemiller, 1984). Other findings of the survey suggest that the following changes are in store for the future:

- We will be moving to a multi-tiered health care system with unlimited quality services going only to the wealthy.

- Patients will assume more responsibility for their own health.

- Doctors' income will be relatively less and patients will be more cost conscious.

- 40 percent of nongovernment hospitals will be owned, leased, or managed by multihospital systems by 1995 and that hospitals with less than 50 beds will not survive unless they join larger systems that provide buying clout and shared management services.

- The center of the health care system will shift to ambulatory care centers.

- People on medicare will have higher deductibles and increased copayments, and the qualifying age for receiving benefits will be increased.

- Medicare and Medicaid coverage for non-hospital care will be increased.

- There will be more HMOs, PPOs, and other service agreements.

Consumers are also entering the struggle to hold back rising costs in health care. In February 1983, a group of citizens formed the People's Medical Society located in Pennsylvania. The Society now has 55,000 members dedicated to bringing consumers into health care and to challenging the system making it more responsive to people's needs. The Society has already produced numerous publications for the health care consumer and advocates opening up medical care so that nurse practitioners and other nonphysician health care providers will have greater access to hospitals.

The economic pressures that have prompted these actions and predictions have already begun to impact nursing. According to Aiken and others, (Aiken, 1983; Mullner, Byre, and Whitehead, 1982), the nursing shortage of the 60's and 70's that prompted the Nurse Training Act has come to a halt. Vacancy rates in staff nursing positions are the lowest since 1946. In 1981 vacancy rates had reached 7.6 percent and in 1983 the vacancy rates fell 30 percent below those of 1982. For the first time in years jobs in nursing are hard to find. The Institute of Medicine of the National Academy of Sciences has predicted that the balance between supply and demand for nurses has reached an equilibrium and should remain that way well through the 1980s. Articles in professional nursing journals during the late 70's and early 80's presenting creative staffing methods and exploring why nurses leave nursing in attempts to explain and deal with the nursing shortage have given way to articles written about nursing staff cuts, layoffs, salary cuts, benefit reductions, and unsafe staffing levels (AJN, April 1984). Many of the Issues and Resolutions of the 1984 ANA Convention reflect the concerns of nurses in response to these economic realities (AJN, July 1984). Key issues included:

- Staffing for productivity
- Home health as an alternate to hospitalization
- Collective bargaining
- Political involvement
- Validating nursing's economic value under prospective payment
- Improved insurance coverage for the poor

It is evident that nursing and our patients could be in serious trouble unless we take action to participate in and help shape the directions for the changes that will inevitably occur. It is unacceptable that nurses, whose salaries have decreased as a percentage of hospital expenses since 1968 and whose jobs have been recently estimated to be worth two-thirds of a lab technician and about one-half that of a pharmacist, should be the first in jeopardy as a result of the health care system's inability to adapt to a changing economic environment (AJN, Feb. 1984; Brett, 1985; Fagin, 1982; The American Nurse, Sept. 1984). Claire Fagin stated in 1982 that, "the present push toward competition in health care delivery should be seized as an opportunity to lobby for legitimizing nursing's role and realizing it's potential" (Brett, 1983).

In order for nursing to "seize this opportunity", we must continue to validate nursing's contributions and costs accurately in a variety of settings and more importantly, we must communicate these findings to the public and to key decision makers in the government and private sectors. Much has already been done to measure the cost savings and positive health outcomes associated with nursing (Brett, 1983; Fagin, 1982; Freund, 1981; Lukacs, 1984). Important work is now underway to break out the costs of nursing in hospitals and for the first time nursing has become a profit center as well as a cost center in many hospitals (AJN, Sept. 1983; AJN, July 1984; American Nurse, Sept. 1984). In July of 1983 through extensive lobbying efforts, the State of Maine legislated that nursing costs must be broken out and that hospitals upon request had to provide itemized bills with nursing costs listed separately (AJN, Sept. 1983). In a survey released last month, 93 percent of surveyed hospitals are attempting to determine the actual costs associated with the provision of nursing services and 18 percent are itemizing charges for nursing services in their billings (The American Nurse, Sept. 1984). We will soon have some of the critical data needed to validate many of nursing's contributions but more and different data need to be collected, analyzed and communicated to fully establish nursing contributions and their economic impact in all segments of the health care system.

One of the most significant contributions that nursing has to offer, now and in the future, is health promotion. We live in an era in which lifestyle, personal health habits, and environment have become the most important determinants of health and illness ("Conference on Future Directions", 1975; USDHEW, 1979). While nursing has been actively promoting health through patient education and other nursing interventions, outcomes and impacts have been difficult to measure. The research problems associated with evaluating and measuring the impact and cost/benefit of health promotion are formidable. Yet without this cost/benefit evaluation we will be hard pressed to legitimize that element of our practice which may in fact be the most unique contribution nursing has to offer in a changing health care system. The health promotion program adopted by Blue Cross and Blue Shield of Indiana was developed by the American Health Foundation and later purchased by Blue Cross and Blue Shield of Indiana. During its operation at Blue Cross and Blue Shield of Indiana it was called the Health Promotion Service (HPS). As a model, the HPS is both a primary health risk identification and reduction program aimed at the three leading causes of death in the United States--cancer, heart disease, and stroke. Nearly 68 percent of the mortality in this country is related to these three chronic diseases. The following paragraphs describe the HPS and its operation.

Health Promotion Service

The Health Promotion Service is an innovative form of preventive health care designed specifically for the worksite by the American Health Foundation in New York City.

The Health Promotion Service is a risk factor identification and reduction program. Risk factors are defined as life habits or body characteristics that may increase a person's chances of developing a serious illness. Some examples of risk factors are: smoking, obesity, excessive alcohol consumption, elevated blood cholesterol levels, high blood pressure, or a family history of disease.

The Health Promotion Service consists of four components or phases, each has its own unique feature and objective, yet all function together with components overlapping at times. Phase I, the pre-screening component, includes program planning, employee education, recruitment and completion of a health risk questionnaire; this phase takes about two months and is designed to educate individuals as to the nature of risk factors and the fact that they are reversible through modification of lifestyle. Publicity meetings and slide presentations are part of an active campaign to encourage employee participation. Other aspects of Phase I are the training of the staff who will be used in the screening operation as well as program scheduling and development of materials. The final portion of this phase is the completion of a health risk questionnaire that is sent to all employees.

In Phase II, the screening phase, those employees who complete and return the questionnaire and a consent form may voluntarily take part in what is called the Mini-Exam. Data processing of materials collected and completion of a post screen questionnaire conclude this phase which takes about one month.

The Mini-Exam is a brief physical examination followed by an interview to review and discuss preliminary results and encourage intervention enrollment. Parameters measured are: height, weight, blood pressure, cholesterol, and blood sugar. During the exit interview, recommendations are made based upon initial findings and a personal 'Health Passport' is completed and given to the participant. Outcomes of the interview may include a recommendation that the participant see a physician, enroll in an intervention group, or continue in his or her healthy lifestyle.

Following the Mini-Exam and data processing, a computer generated, individualized risk letter is mailed directly to the participant along with a pamphlet describing ideal screening values and how they relate to measurement standards. After receiving this risk letter, the participant has a second opportunity to enroll in intervention groups.

Phase III, the Intervention phase, consists of small group sessions for those individuals at risk. This phase is designed to promote health behavior and or lifestyle change. A combination of group process, peer support, education, behavior modification and self monitoring are used to achieve this goal. The ultimate goal is to enable the individual to become responsible for his or her own good health habits. Some of these programs include: smoking cessation, nutrition, weight reduction, fitness, stress management, and alcohol/drug consumption.

For intervention purposes smoking is defined as 10 or more cigarettes per day. Within one or two weeks following the Mini-Exam, the smoking cessation program begins. The participants meet one hour per week in groups of 10-12 persons for a period of six weeks. The groups are led by a smoking interventionist and are goal oriented in nature. Once the participant achieves a 24-hour period without smoking, he is placed into a maintenance program consisting of peer support and telephone taped messages.

The individuals with high blood pressure, elevated cholesterol or who are overweight, are offered a nutrition program. The nutrition program consists of lectures and group participation. Initially the group meets one hour per week for six weeks. During this time discussion centers on the salt, cholesterol, fat, and calorie content of foods as well as food labeling, menu choices, and recipe modification. At the end of the initial six weeks, those employees who are overweight are invited to enroll in a 10 week weight reduction group.

Phase IV of the program (which lasts about one year) consists of follow-up and maintenance activities. Individuals who have completed the intervention programs are telephoned periodically to check on their progress and encouraged to continue in their new health lifestyle.

Also during this phase, telephone taped messages, recipe post cards and peer support are used to assist individuals in maintaining their new health habits. The real test of success occurs in the rescreening which is done at six months to remeasure their cholesterol, weight, and blood pressure. Results are compared to the initial screen and progress is recorded. This type of follow-up is considered a powerful maintenance tool and all participants are rescreened at the end of one year.

Health Promotion Service: Evaluation and Impact Study

In 1980, Blue Cross and Blue Shield of Indiana and the Health Services Foundation submitted a grant proposal to the W. K. Kellogg Foundation to evaluate and study the impact of the HPS. The proposal was funded and the study, which began in November of 1981, was completed in December of 1984. There were three purposes of the study:

1. To conduct a five year retrospective study to compare the physiological and health risk changes of those employees who had taken part in the risk reduction programs with changes in a similar group of employees who had not participated in the programs.

2. To conduct a one year prospective study to evaluate the effectiveness of the HPS in changing lifesytles, behaviors, and absenteeism of participating and non-participating employees.

3. To evaluate the impact of the HPS on health care utilization patterns as measured by paid health care claims over a period of five years.

Summary of the Results

Much of the research done to date on the HPS describing the program (Grove, Reed, Knight, Miller, 1978), research methodology (Billingham, Woodward, Henes, 1983), early and long term physiologic impacts (Grove, Reed, Miller, 1979; Billingham, 1984; Billingham, 1983), and health insurance utilization comparisons both internally and using external control groups (Reed, Huber, 1983; Reed, 1984) have been pubished elsewhere. This paper will briefly summarize these findings and present for the first time the cost/benefit data.

Objective 1.

This five year retrospective study compared the physiologic (blood pressure, cholesterol, etc.) and health risk changes of employees who had taken part in the risk reduction programs with corresponding measures of a group of employees who had not participated but were similar with respect to age, sex, and insurance coverage.

Figure 1

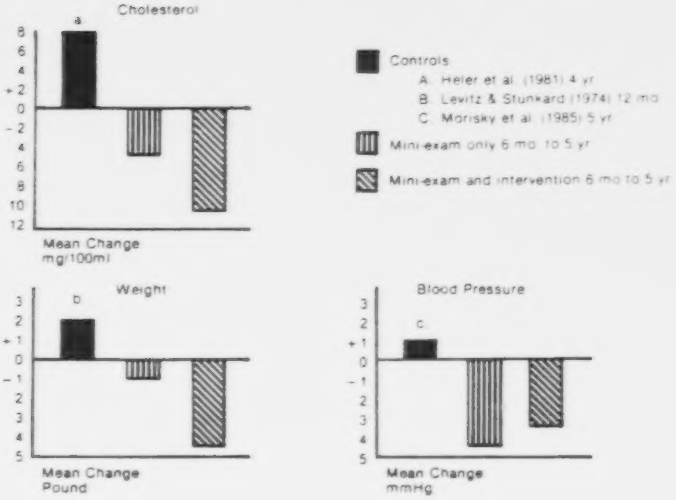
Age of Participants
and Nonparticipants by Sex

	Participants		Nonparticipants	
Age	Male	Female	Male	Female
15-19	4	7	3	9
20-24	5	104	7	151
25-29	10	142	8	184
30-34	8	73	3	104
35-39	4	64	2	97
40-44	2	71	3	89
45-49	7	60	4	78
50-54	3	51	0	84
55-59	5	46	0	66
60-64	0	0	0	0
65-69	1	0	0	0
Total	49	618	32	862
Mean	36	31	32	33

The data were collected using the Mini-Exam process from 1978 through 1982. Employees who had participated in all phases of the HPS were found to have significantly lowered their mean cholesterol levels, blood pressures, and weight as measured in pre and posttesting over a five year period as compared to external controls gleaned from the available literature and "Mini-Exam only" participants. One exception was found in blood pressure reduction. It was found that participants who only participated in the Mini-Exam process had maintained lower mean blood pressure readings than either the external controls or the participants. Mean cholesterol levels were reduced by nearly 12mg/100ml, mean weights were reduced by nearly 51 lbs., and mean blood pressures were reduced by nearly 4mm Hg for the participants. The "mini-only" group had mean blood pressure reductions of nearly 5 mm Hg.

FIGURE 2

Mean Difference Between
Pre and Follow-up Measures



These data support two conclusions. First, employees who became aware of health risks through health screening and education were likely to make lifestyle changes in order to reduce the risks. Second, on-site nutrition and weight reduction programs conducted by registered nurses were effective in reducing health risks.

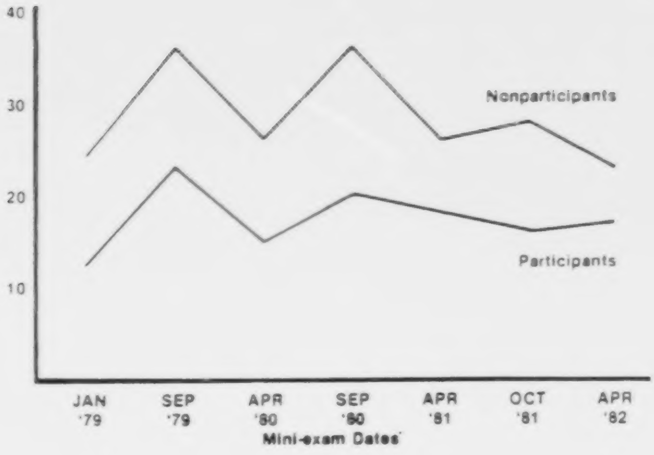
Objective 2.

A prospective study was conducted from April 1982 through April 1983 to evaluate the effectiveness of HPS in changing lifestyles and attitudes regarding maintenance of personal health. A second aspect of this objective was to compare absence due to illness among these same groups, however, data were only available for BCBSI employees. Although the external group had to be excluded for the absenteeism analysis, more than four years of data were analyzed for the BCBSI employees as opposed to the original one year prospective intended. Health behavior and attitudinal data were collected for employees who participated in all phases of the HPS, employees who completed the survey only, and an external control group. No significant differences were found in these measures pre and post or between groups. It is assumed that more than one year may be needed to adequately measure these changes.

The absenteeism data was much more encouraging. It was found that program participants were absent from work less often due to illness from 50 percent to 400 percent than nonparticipants when measured at six month intervals over a four year period. When wages were computed, $180,000 less was spent on participants than nonparticipants.

FIGURE 3.

Mean Hours Absent for Participants and Nonparticipants



Objective 3.

The purpose of this part of the project was to compare HPS program costs to health care benefits utilization. The information was divided into short and long term impacts. It was found, in the short term (six months following screening), that the HPS program increased the number of claims filed but not necessarily total cost per claim filer.

The long term evaluation was a cohort study of 667 employees who participated in the HPS and 892 employees who did not. All 1559 persons were employed at BCBSI from July 1977 through October 1982. Three sets of data (progam cost, benefit utilization, and savings) were obtained.

Program cost was divided into three categories: direct intervention, screening and questionnaires, and managerial prevention.

Direct intervention costs included health interventionists' wage and fringe benefits, participants' wage and fringe benefits, supplies, and space. Screening and intervention costs covered everything involved in implementing the health risk questionnaire and conducting the Mini-Exam. Every expenditure was included, down to the price of printing, cotton swabs, juice, and space. Managerial prevention encompassed the costs of administration, overhead, promotion, and management involvement. These can be thought of as the costs of controlling or managing the environment toward a specific goal, without direct personal intervention.

From 1978 to 1982, the total cost for direct intervention was $258,049.74. For screening and questionnaires, the cost was $295,891.42; and for managerial prevention, the cost was $312,930.73. The mean program cost per person was $73.00.

Figure 4

Program Cost per Person
(In 1982 Dollars)

	SI Mean	SQ Mean	C Mean	Total Mean
1978	493.18	123.86	45.41	145.38
1979	419.91	78.86	9.46	68.81
1980	356.63	84.04	23.04	44.84
1981	383.03	90.62	33.72	48.64
1982	315.48	72.81	19.62	56.00
Total	393.45	90.04	25.90	73.00

The Blue Cross, Blue Shield, Major Medical, Outpatient Utilization, and total benefits utilization was obtained for the 667 HPS participants and the 892 nonparticipants. The data cover the period from January 1978 to October 1982.

The mean yearly total nonparticipant utilization was $286.73, and the mean yearly participant utilization was $227.38.

For the same two groups, the differences in their benefit utilization were determined and discounted. For the period of January 1978 through October 1982, it was found that the participant group saved $519.09 per person.

Taking a weighted average of program costs across all five years and dividing into total savings, a savings to cost ratio of 2.51 was obtained.

Figure 5

Differences (Dif) Between Participants
and Nonparticipants in
Discounted (Dis) Benefit Payments

	Blue Cross		Blue Shield		Total	
	Dif	Dis	Dif	Dis	Dif	Dis
Jan 1978	(45.53)	(42.43)	(14.66)	(13.66)	(74.78)	(69.69)
July 1978	48.74	45.42	38.89	36.24	102.71	95.72
Jan 1979	63.83	55.50	17.22	14.97	79.67	69.28
Sept. 1979	36.41	31.66	28.92	25.15	82.57	71.80
Aug. 1980	58.37	47.45	40.77	33.15	111.06	90.29
Sept. 1980	75.30	61.22	68.41	55.62	167.22	135.95
Apr. 1981	27.57	20.89	32.58	24.68	75.06	56.86
Oct. 1981	38.47	29.14	42.31	32.05	108.01	81.89
Apr. 1982	3.57	2.51	(12.57)	(8.85)	(18.47)	(13.01)
Total	306.73	251.36	241.87	199.35	633.05	519.09

Total figures include major medical and outpatient discounted benefit payments.

Conclusion

The findings of this study suggest that health promotion programs can reduce risk factors, absenteeism, and subsequent health care costs. It also suggests that health promotion at the work-site can be a very effective health care cost containment tool for business and industry.

Nursing can and should play a vital role in determining the future of our health care system through continued validation of its contributions. It is through this continued validation and subsequent determination of findings that nursing can legitimize its role and realize its potential.

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Monitoring Patients with Nasally Placed Feeding Tubes: A Collaborative Research Effort

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A collaborative study, entitled "Monitoring Patients With Nasally Placed Feedings Tubes" was conducted from October, 1983 through September, 1984 by a clinical nurse specialist at the Jewish Hospital of St. Louis and two nurse educators at St. Louis University School of Nursing. Although Jewish Hospital was the major clinical site for the study, a neurosurgical unit at St. Louis University Hospitals was included in the latter half of the project.

The research was done to address clinical problems associated with the nursing management of patients with small-bore feeding tubes. While the newer small-bore feeding tubes have largely eliminated problems with local tissue irritation, the literature reports difficulty in using traditional methods to verify their placement and to check for gastric retention (Orr, Shinert, & Gross, 1981). The literature also reports that flexible small-bore tubes may move out of correct position with little provocation (Murphy & Hostetler, 1981). Their use also does not eliminate the possibility of pulmonary aspiration (Baker & Smith, 1984).

Research Objectives

Objectives of this descriptive study were as follows: (1) to measure the frequency with which nurses were able to predict proper placement of nasogastric tubes by epigastric auscultation of 10 milliliters of air insufflated through the tube, (2) to describe the frequency with which nurses reported being able to aspirate at least 5 milliliters of fluid and adequately check for gastric retention in patients with large-bore and small-bore feeding tubes, (3) to describe the frequency with which nasogastric and nasointestinal feeding tubes spontaneously moved out of position and associated risk factors, and (4) to describe the frequency with which pulmonary aspiration occurred in patients with nasogastric and nasointestinal feeding tubes and associated risk factors.

(A third investigator, Martha Spies, CCRN, MSN, was employed at St. Louis University at the beginning of the study: but is no longer associated with the University)

This paper describes the project that received the 1985 MAIN Agency Achievement Award.

Collaborative Process

The idea for the research was conceptualized by one of the nurse educators (primary investigator). After discussing the prospect of the study with a fellow nurse educator, numerous obstacles became evident. Among these were difficulty in obtaining access to an adequate sample and lack of familiarity with the multitude of commercially available feeding tubes. In a discussion with the clinical nurse specialist, it was learned that she shared an intense interest in the same area, since a major portion of her time was devoted to the care of tube-fed patients. At this point, the three researchers joined forces and developed a proposal for submission to the American Nurses' Foundation for funding of a pilot study. (The study was funded in October, 1983).

Each investigator contributed in different ways to the project. The educators were prepared in research methodology and, because of work with students in a variety of institutions, were familiar with the diverse problems associated with care of tube-fed patients. The clinical specialist possessed detailed knowledge and skill in relation to insertion and maintenance of feeding tubes, plus a familiarity with the multitude of tubes available commercially. In addition to facilitating approval from the human research review boards of both institutions, the collaborative effort facilitated gaining of support from nursing administration, staff nurses, physicians, and medical records departments.

The investigators shared responsiblity for obtaining informed consent, collecting data, and "trouble-shooting" as the inevitable problems associated with research arose. Due to the complementary roles of the investigators, problems were addressed more efficiently and quickly. A research assistant was utilized to make daily rounds to identify patients receiving nasoenteral tube feedings and to collect data. Lastly, data analyses and writing of the report were shared by the three investigators.

Methodology

Eight nursing units in two midwestern medical centers were used as study sites. They included a surgical intensive care unit, a medical intensive care unit, two step-down units, an ENT unit, two rehabilitation units, and an acute neurosurgical unit. All types of nasally placed feeding tubes encountered on these units were included in the study. Three data collection sheets were developed by the researchers. For objectives one and two, staff nurses were asked to record their responses to questions on Data Sheet I. They were asked to attempt to aspirate at least 5 milliliters of fluid from the tubes, to auscultate the epigastrium while insufflating 10 milliliters of air, and to measure the volume of gastric retention. In later chart reviews, the researchers recorded results of x-rays mentioning tube placement and compared these findings with pertinent responses by staff nurses. Twenty patients with nasogastric tubes (128 tube days) were studies. Staff nurses also provided data on 55 patients with nasointestinal tubes (247 tube days). For the latter, they attempted to withdraw 5 milliliters of fluid from the tubes and auscultated the epigastric region while insufflating air. Data for the first two objectives were collected from December, 1983 through May, 1984.

For the last two objectives, 105 tube-fed patients were followed longitudinally during their hospitalizations. A research assistant made daily rounds to record risk factors identified in the literature as possible contributors to tube displacement and/or pulmonary aspiration. Concurrent, and when necessary, retrospective chart reviews were used to record results of x-rays and other diagnostic information. Data were collected from February, 1984 through July, 1984.

Findings

As a result of tube collapse, less than half of the attempts to aspirate at least 5 milliliters of fluid from small-bore tubes were successful; because of this, it was impossible to test for gastric retention in most patients. Many nurses reported that they primarily relied on auscultation of insufflated air to test tube placement. Yet, according to the findings on x-rays, nurses were unable to predict tube placement accurately by this method (air was reportedly heard when the tubes were in the esophagus or intestine, as well as in the stomach). After initial placement, only about one third of the patients had follow-up x-ray films for tube placement verification; of these, 15 percent of the small-bore nasogastric tubes and 35 percent of the nasointestinal tubes were found to be spontaneously displaced. Significant risk factors (chi-square) included coughing, upper airway intubation, suctioning, and a decreased level of consciousness. Six of 105 patients were diagnosed as having pulmonary aspiration. Frequently occurring risk factors included decreased level of consciousness, altered swallowing mechanism, and vomiting.

Impact of Project

Findings of the study have the potential for significantly improving the nursing care of enterally fed patients. Results have been disseminated by the investigators in the following ways:

- Two nationally broadcast 30-minute videopresentations on the care of tube-fed patients

- Research Award Paper presented at the 1985 National Teaching Institute held by the American Association of Critical-Care Nurses in Atlanta, Georgia (award sponsored by Oximetric Corporation)

- Abstract of study published in May-June (1985) issue of Heart & Lung

- Presentation at two regional research colloquia (St. Louis University School of Nursing and Veterans Administration Medical Center in St. Louis)

- Presentation at a conference on the care of tube-fed patients for nurses from extended care facilities in the St. Louis Metropolitan area

- Lectures to graduate and undergraduate students at St. Louis University School of Nursing (many of the graduate students are employed in schools of nursing and health care facilities in St. Louis, neighboring Illinois areas, and down-state Missouri regions)

- Manuscripts have been accepted in two refereed clinical nursing journals and are under review in nursing research journals and an interdisciplinary nutritional support journal.

Without the collaborative effort of the researchers, this study would not have been possible. Time constraints imposed by the researchers' primary positions would have prevented the study from being conducted by only one person. Even more important, however, was the meshing of the clinical expertise of the clinical nurse specialist with the research skills of the doctorally prepared nurse educator. The colleagial relationship between the nurse educators, the clinical nurse specialist, and the nursing service director at the primary clinical site was highly significant throughout the study.

At present, the investigators are working together to obtain funding for a more extensive study with an experimental design. The proposed study is designed to develop safe and cost-effective protocols for managing patients with small-bore feeding tubes.

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The Influence of an Employee Fitness Program upon the Cost Containment Variable of Absenteeism, and Medical Costs

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There is a growing need for nurses to lead the nation in wellness and fitness care. Given the current crisis in the health care delivery system, the nation as a whole and the nursing profession in particular need to explore more positive ways of promoting health. As nursing makes strides to branch out into wellness care, the model from industry offers a useful example.

Wellness Defined

Herbert Dunn first coined the term high level wellness in 1959. Since that time health professionals, industry, and the average consumer have become interested in high level wellness. According to Dunn, wellness is "an integrated method of functioning which is oriented toward maximizing the potential of which the individual is capable, within the environment where he is functioning."

The Wellness Movement

Americans prioritize wellness and fitness. Health spas are big business and high level wellness is promoted for all age groups. The federal government has enacted laws to effect wellness which include: 1) the Health Maintenance Organization Act of 1972 to provide preventive educational services; 2) Public Health Law 94-317, which formed the Office of Health Information and Health Promotion in 1976; 3) Title V of Public Law 95-626, which expanded the Office of Health Promotion; and 4) establishment the School Health Project in 1978.

Alternate approaches to health care have sprung up across the country in the form of self help groups, reconditioning centers and institutes, and life styling with a wellness focus.

History of Fitness Programs in Industry

Industries with a history of fitness programs include: the Pullman Company, 1879; Johnson Company, 1886; Eastern Kodax Company, 1914; Goodyear Tire and Rubber Company; and Metropolitan Insurance Company, 1871. Studies indicate that those who took part in regular exercise were in better general health, were more productive on the job, and accrued fewer absences (Tuthill, 1979) (Brennan, 1982).

John Patterson, founder of the National Cash Register Company is considered the father of corporate fitness. Spurred on by Dr. John Harvey Kellogg of Battle Creek, Michigan, in 1890 Patterson launched a simplistic fitness program for his employees. Included in the fitness program were "Health Hints" related to fresh air, exercise, clean living, and nutrition. Patterson is also noted for instituting the first coffee break. Four hundred employees enrolled in a "Vital Center Physical Culture course" supposedly geared to improve digestion. (Dunn's Review, 1980)

Fitness Defined

According to Fall, (1980) fitness is "participation in exercise that is geared toward improving one's quality of living." Components of fitness include: cardiovascular function, body composition, strength, and flexibility. Cox stresses cardiovascular fitness, with the belief that an individual who is fit can exercise vigorously without fatigue and respond to sudden emotional and physical demands with only minimal rises in blood pressure. A fit individual experiences greater endurance with less strain on his or her cardiovascular system.

Industry and Fitness

Industrial corporations particularly interested in fitness include Blue Cross, Xerox, Kimberly Clark, American Can, Johnson and Johnson, International Business Machines, Control Data, Boeing, Union Carbide, Adolph Coors, Trans World Airlines, APPLE Computer, International Harvester, Campbell Soup, Anheuser-Busch, Phillips Petroleum, Pepsicola, Ford Motor, Atlantic Richfield, and Exxon. These companies hire qualified fitness directors who earn up to $35,000 annually. Programs provide fitness testing, monitoring, exercise equipment, gyms and specific wellness programs for each employee with selected exercises, and health instruction (Levy, 1980).

The main component of the fitness programs in industry include: weight control plans; exercise programs with adequate facilities and recreational resources; chemical control or monitoring intake of drugs, alcohol, coffee, etc.; stress control programs; confidential health risk profiles; positive nutrition; and health education information and life styling programs. The programs are very comprehensive and expensive at some companies, while at others they function with limited funding. (Kaplan, 1983)

According to Levy, (1980) in 1973 there were 75 industrial fitness programs. Industrial programs which by 1980 had increased to 760 programs. Industrial programs of the seventies increased four times that of the sixties. There will be even more rapid growth in the eighties as more companies realize the cost effectiveness of programs that make both executives and employees healthier, happier and more productive people.

An industrial company's cost containment refers to efforts a company makes to decrease its costs for producing its products. Costs are increased by losses to the company. Losses include such things as payment for employee's sick time, and insurance payments. Losses may also include employees' absenses which may hinder production for that day or necessitate another person being called in to work in the place of the absent employee.

Statement of Problems

This study was undertaken to ascertain if workers on a fitness program in a selected Midwest industry experienced less absenteeism, and reduced insurance claims when compared to employees not on a fitness program. Cost containment variables were compared for employees on a fitness program with those who were not.

Hypotheses

1. Two hypotheses were tested:

   1) employees on a fitness program are absent less often than employees not on a fitness program; and

   2) employees on a fitness program have lower medical costs than employees not on a fitness program.

Health Care Costs

In 1980 the nation spent $223 billion on illness care. Business pays $25 billion annually for premature deaths of employees and another $3 billion for illness. In 1980 two percent of the nation's health expendicure was for preventive care and less than one half of one percent is used for health education (Pyle, 1980). In 1969 the nation's total health care costs were $60.6 bilion; by 1979 this had increased to $212.2 billion indicating a 350 percent increase in ten years (Brennan, 1981). The total corporate cost of health insurance in 1980 was $50 billion, double that of just five years earlier (Perham, 1980). In 1980, the total corporation cost of health insurance was $70 billion, and predictably will keep growing (Daniel, 1980).

Alternate Approaches to Health Care Costs

Businesses are banding together to combat the high cost of heatlh care by finding an economical means of providing remedies and also by working at prevention. Fitness programs are yielding a variety of desirable results such as, cutting absenteeism in half, alleviating stress, promoting weight control, changes in life styling, improved self image and improving relations among coworkers and employees (Pyle, 1980) (Kaplan, 1983).

Some companies still hesitate to institute fitness programs due to lack of scientific data providing a positive relationship between fitness and productivity or medical benefit cost savings. Those companies instituting a fitness program usually start with health assessment and screening to identify risk-taking life style behavior, specific health ailments, and the individual's fitness level. Companies need to set specific goals for their commitment to employee fitness in terms of absenteeism, health costs, general morale, physiological measures, and desired behavior changes (Pyle, 1980).

Laughlin's Seven Step Approach to Achieving Wellness at Work

Laughlin's program consists of periodic examinations or health appraisals and a lost time profile. The lost time profiles are utilized to evaluate existing health and safety programs, monitor employee insurance utilization and costs, and ascertain cost/benefit information.

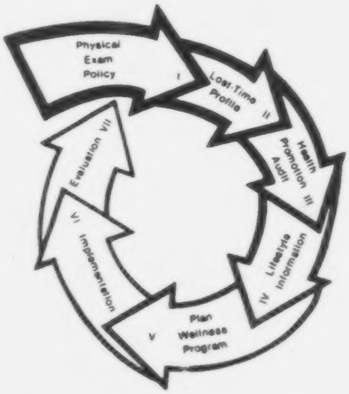
Physical Exam Policy I
Lost-Time Profile II
Health Promotion Audit III
Lifestyle Information IV
Plan Wellness Program V
VI Implementation
Evaluation VII

Figure 1. Laughlin's seven step approach to achieving willness in the work place (Laughlin, 1982)

In 1978, Fitness Canada initiated the world's first controlled demonstration study on employee fitness. Canada Life and North American Life Assurance companies in Toronto were used as the experimental and control site. The benefits accrued to corporate business included a twenty percent net reduction in absenteeism among high adherent to the program as compared with control company employees shown in Figure 2.

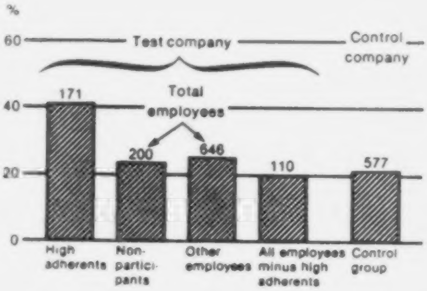

Figure 2. Decreases in Absenteeism (Percentage decrease per 1,000 employees per month)

Source: The Canadian Employee Fitness and Lifestyle Project, Dec. 1980

Canada Life personnel estimated the annual savings would be over $200 thousand if all employees had the same absentee rate as high adherents (Louzon, 1982).

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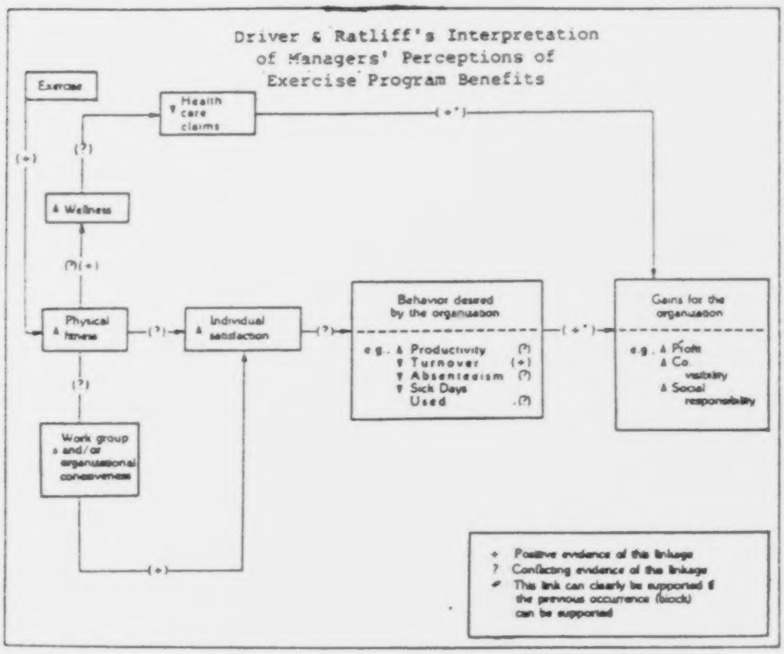
Driver and Ratliff's Model of Managers Perception of Exercise Program Benefits

The following model indicates that management projects an increase in productivity and decrease in turnover, absenteeism, and sick days used will combine with decrease in health care claims to increase the organization's profits from an employee physical fitness program:


Driver & Ratliff's Interpretation
of Managers' Perceptions of
Exercise Program Benefits
Exercise
▼ Health care claims
(+*)
(+)
(?)
▲ Wellness
(?)(+)
▲ Physical fitness
(?)
▲ Individual satisfaction
(?)
Behavior desired by the organization
e.g., ▲ Productivity (?)
▼ Turnover (+)
▼ Absenteeism (?)
▼ Sick Days Used (?)
(+*)
Gains for the organization
e.g., ▲ Profit
▲ Co. visibility
▲ Social responsibility
(?)
▲ Work group and/or organizational cohesiveness
(+)
+ Positive evidence of this linkage
? Conflicting evidence of the linkage
* This link can clearly be supported if the previous occurrence (block) can be supported

(Driver & Ratliff, 1982)

Figure 3. Driver and Ratliff's Model

Evaluating Fitness Programs

According to Pyle, (1979) fitness programs must be managed well to succeed in their corporate intent. They must relate to organizational goals. Specific operational objectives should be identified which are measurable over time. Short term goals are of value to the participant in terms of enhanced wellness; and long term goals are important to the organization in terms of worker productivity and lowered health care costs.

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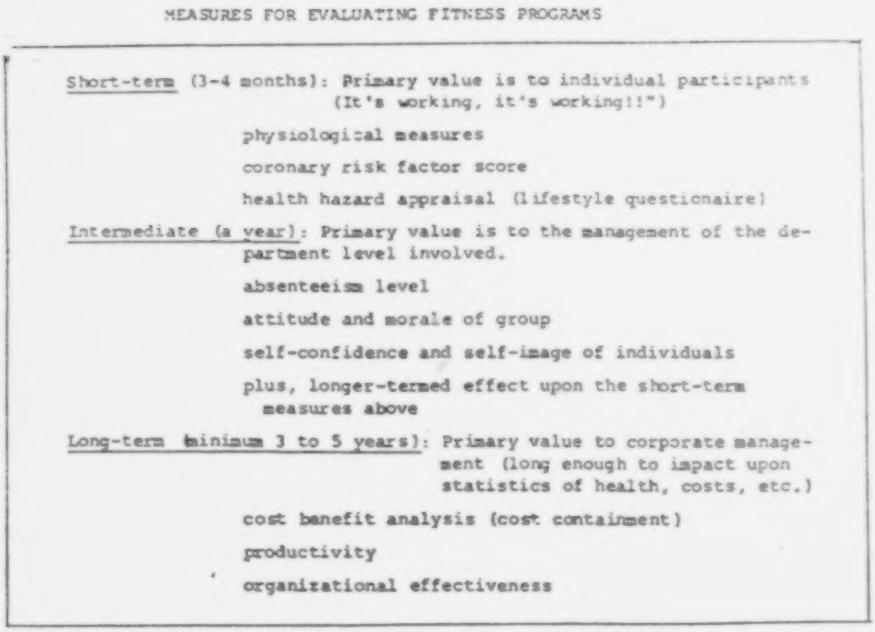
Pyle presents the following figure stressing Measures for Evaluating Fitness Programs:



MEASURES FOR EVALUATING FITNESS PROGRAMS

Short-term (3-4 months): Primary value is to individual participants ("It's working, it's working!!")

physiological measures

coronary risk factor score

health hazard appraisal (lifestyle questionaire)

Intermediate (a year): Primary value is to the management of the department level involved.

absenteeism level

attitude and morale of group

self-confidence and self-image of individuals

plus, longer-termed effect upon the short-term measures above

Long-term (minimum 3 to 5 years): Primary value to corporate management (long enough to impact upon statistics of health, costs, etc.)

cost benefit analysis (cost containment)

productivity

organizational effectiveness

(Pyle, 1979)

Figure 4. Measures for Evaluating Fitness Programs

Pyle further states that the overall objective for corporate involvement in fitness is "to evaluate the health and vitality of the firms' human resources" (Pyle, 1979).

Responsibility of Hospitals for Wellness Care According to Cunningham

Wellness and fitness programs in business and industry are making appreciable commitment to corporate health. Benefits of such programs include improved morale, increased productivity, and decreased absenteeism.

Cunningham, (1982) stresses that hospitals needs to be in the business of fitness programs for communities and businesses. A policy statement of the American Hospital Association stated that, "The hospital has a responsibility to work with others in the community to assess the health status of the community, to identify target areas and population groups for hospital-based, cooperative health promotion programs. It should develop programs to help upgrade health in those target areas, ensure that persons who are apparently healthy have access to information about how to stay well and prevent disease. It should also provide appropriate health education programs to help persons who want to develop a more healthful lifestyle. In this way the hospital can expand its image as an institution in the community that is concerned about good health in addition to one concerned about treating illness" (Cunningham, 1982).

Analysis

A statistical analysis was made to measure the relation between use of the Company's fitness facilities and 1) time off work for employee sickness and 2) medical cost. To conduct the test, two samples of males, age 50 or greater were drawn. The first group of 70 was selected by the Recreation and Medical staff, and represented men known to be regular users of the recreation facilities, or who had a regular exercise program. The second group was a sample of 108 men selected at random from the balance of the 1,686 men in the total population of age 50 and over.

Analysis of the data was accomplished using a left-tailed Z test. There was a statistically significant at the .05 confidence level in favor of the exercise group over the control group regarding unavoidable absenses for the two year period. Therefore the null hypothesis was rejected.

The exercise group accrued 20.2 hours of absence for the two year period, while the control group accrued 47.7 hours of absence for the same period --- a 131 percent difference in favor of the exercise group. For the first year the exercise group accrued 10.7 hours of absence while the control group accrued 18.4 hours of absence, a 72 percent difference in favor of the exercise group. For the second year the exercise group accrued a 9.5 hours of UAB while the control group accrued 28.3 hours of UAB for a 198 percent difference in favor of the exercise group, showing a cumulative positive effect of the exercise program.

There was a difference between the two groups regarding medical costs in favor of the exercise group. The average of claims for the exercise group for the two year period was $605, while the average of claims for the control group was $888. The highest claim for the exercise group was $3,010.00, while the highest claim for the control group was $8,016.00. These differences were not statistically significant at the .05 level, however, indicating that more indepth studies are needed to document the cost containment value of an employee fitness program. Other variables that might be compared, between the two groups include numbers of aerobic points mean B/P, mean pulse, and mean blood lipids.

Implications for Nursing

Using industry's model for fitness programs which increase the level of wellness for employees, nurses can:

1) work with industry to further document the value of a balanced fitness and wellness program for employees;

2) lead the nation in fitness and wellness programs through example, teaching, counseling, and research;

3) package and market wellness and fitness programs as entrepreneurs;

4) identify potential jobs available for nurses in industrial fitness and wellness programs;

5) initiate fitness and wellness programs in communities, hospitals, schools, and clinics; and

6) reassess/reaffirm its role in relation to fitness and wellness care within the health care delivery system.

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Nursing Clinics: Promoting Health in the Community

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A greater emphasis on health promotion in nursing practice has been brought about by factors such as rising costs and increasing involvement in health care. In addition to these influences, the concept of health has changed from "merely the absence of illness" to a positive state of "physical, mental and social well-being." (World Health Organization, 1971) The focus of nursing practice on health is reflected in Schlotfeldt's proposed definition of nursing as "assessing and enhancing the general health status, health assets, and health potential of human beings" (1981).

As Clark (1984) illustrates, the attainment of optimal health requires health promotion activities in addition to those directed at prevention of illness and health maintenance or restoration. In response to these trends, nursing education programs must find ways to foster the development of health promotion skills in students. The end results would be to enhance the self-care abilities of the clients they serve in the community.

The purpose of this paper is to describe a means by which the contributions of nursing to health promotion can be incorporated into the learning experiences of baccalaureate nursing students.

The Southwest Missouri State University Department of Nursing, in cooperation with community agencies, operates two health clinics in Springfield, Missouri. The clinics evolved from projects of registered nurse students in the BSN completion program. The partial fulfillment of requirements in the Senior Nursing course, each student is expected to identify a health care need and act as a change agent in developing ways to meet that need.

The Geriatric Health Clinic was begun in 1978 at a downtown meal site sponsored by the Southwest Missouri Office on Aging. The geriatric clinic was designed to assist the healthy individual to stay healthy and to help individuals with chronic illnesses to achieve a maximum level of wellness. Visits at the clinic have grown from an average of 16 clients/day in1978 to approximately 40/day in 1985.

In the spring of 1983, a student working with the Westside Community Betterment Association conducted a community assessment which revealed a lack of health care services in this area of Springfield. The Westside Health Clinic was opened in the fall of 1983, in a two-bedroom house owned by a resident of the area and loaned for use as a clinic. The target population of the Westside Clinic includes all age groups; over 200 clients have utilized its services. Daily client visits average approximately 25.

As a component of their clinical experience in a course in Nursing of the Individual and Family, students provide nursing services at the clinics two mornings per week during the academic year. The majority of the students are employed in acute care settings and this clinical assignment is their first opportunity to practice in a community setting. The emphasis on self-care and fostering health-promoting behavior in clients is another dimension of nursing practice which challenges the students. Services which are provided at the clinics include health history and physical assessment, focused on the identification of self-care abilities and deficits. Screening is offered for hemoglobin and hematocrit, blood sugar, vision, hearing, and blood pressure.

Assessment of client's health practices and potential for change is a second component of clinic services. Assistance is given to clients in identifying aspects of self-care where change would be beneficial in reducing health risks. Nurses work with clients in setting realistic goals and exploring alternative strategies for meeting their goals.

A third service offered is referral, when indicated, to appropriate health care providers and community agencies. Clients are encouraged to continue to obtain medical care through their own physicians; those who lack a primary care provider are referred to public assisted resources or other providers if necessary. The opportunity exists for students to develop collaborative relationships with other health professionals, and an awareness of services provided by other agencies in the community. During the spring semester, senior dietetic students assist nurses with nutritional assessments and nutrition education for clients with special needs.

A fourth element of clinic services is providing assistance to clients in promoting and maintaining health through education in diet modification, stress management, and reduction in hazards to health.

At the Westside Clinic, often nurses are consulted by families who have questions about normal child development and child care. Classes in exercise adapted to meet the needs and abilities of the aging client have been offered at the Geriatric Clinic. A concern for personal safety after a purse-snatching incident involving a geriatric clinic client prompted students to invite representatives of the police department to present an educational program.

Stress management strategies, such as progressive muscle relaxation techniques, are taught to clients at both clinics. Nutrition education, including modification of diet to achieve weight control, reduction of sodium, or other recommended changes has inspired creative approaches. At the geriatric clinic, students conducted a group instruction session on nutrition dressed in costumes representing the four basic food groups. A student at the Westside Clinic developed a "game" approach to assist a newly diagnosed diabetic client to adhere to a prescribed dietary regimen

- cards resembling currency represented allowed exchanges which were "budgeted" and "spent" as the day's meals were planned and consumed.

A hypertension monitoring protocol was devised by one student for assessment and identification of areas to develop in client's self-care abilities. Assessment tools and a flow sheet of suggested nursing actions are components of this protocol.

The clinic setting described has a two-fold benefit. First, students have an opportunity to develop their roles in health promotion. This is accomplished by the use of strategies such as assessment, identification of risk factors, and health education. The clinic provides a setting for practicing interviewing and physical assessment skills and health education, which are major foci of the Individual and Family Nursing course.

The second involves the populations served by the nursing clinics, which benefit from the focus on prevention of illness or complications of existing conditions, and/or behavior changes which contribute to wellness. The populations include elderly and low-income clients, who frequently state that costs would otherwise prohibit their seeking health care until a problem occurred. Through the nursing clinics, clients are assisted to develop their own abilities in self-care.

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Mobile Health Unit for Older Americans

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The Mobile Health Unit for Older Americans is an outreach, health promotional program for persons 60 years of age and over which has been in operation since December 1978. The program fulfills the goals of the Gerontology Center at the University of Evansville to provide services to the elderly.

Recognition of the need for such a program was initiated by senior citizens who repeatedly verbalized their problems with the health care system to local and state health officials. Specifically, the concerns focused on the cost of health care and access to health care programs. Through a collaborative relationship between persons from the Gerontology Center at the University of Evansville and the Southwestern Indiana Regional Council on Aging (SWIRCA) the program was developed and implemented.

The initial purposes of the program were to: a) provide preventive health care with an emphasis on reaching the elderly who had no or little access to health care in area 13-B; b) find isolated seniors and arrange for needed services; c) educate the elderly in personal health care and responsibility; d) refer clients to persons and/or agencies who can assist in meeting their health care needs; and e) provide restorative and maintenance nursing care where feasible. Purposes today remain similar with a much more explicit focus on health promotion and wellness.

While it was realized from the beginning that the unit would serve as an excellent learning site for students, and it does, it was decided that for the unit to be successful, the primary purpose should be the provision of services to the elderly. We believed this was necessary to ensure that services would be provided on a consistent basis independent of students' learning needs and/or academic schedules. Students are, however, a vital component of the program and rotate regularly on the unit.

Services provided by the program include individual health assessment, health education, and referral to appropriate resources. Specific screening tests which are provided include glaucoma screening, measurement of hemoglobin, blood sugar levels, blood pressure assessment, testing for occult blood in the feces, testing for abnormal constituents in the urine, and physical assessment.

Consistent with the wellness model, a major focus of services is to provide clients with information, assist them in developing skills in seeking further information, and to encourage them to assume responsibility for their level of wellness. In addition to the ongoing education of individuals, group educational programs are offered at various sites.

Individual client records are maintained and organized by patient's locale. Records include information on age, sex, race, marital status, income levels, physician, frequency and reasons for visits to physicians, past history and family history, general health status, current health problems, allergies, nursing problems, laboratory data, medicines, and referrals. Nursing interventions are recorded and nursing problems are reassessed at each follow-up visit.

Daily activities of the program are under the direction of a registered nurse who has a Master's Degree in Nursing. The nurse on the unit is assisted by a Senior Aide whose services are provided by the local Community Action Program. Overall supervision for the program resides with the director of the Gerontology Center, who reports directly to the Dean of the School of Nursing and Health Sciences.

Because the program receives funds from the Older American's Act, which specifically restricts charging for services, there is no fee for services regardless of income levels of clients. Clients are encouraged to donate according to their ability to pay and a suggested donation list is posted on the unit. We strive to create a climate whereby those persons who can contribute will do so, and those who cannot contribute will feel comfortable in continuing to use the services.

Under federal guidelines we are not allowed to administer a means test. However, we are to provide data which shows we are serving low income persons. This dilemma has been addressed by requesting clients to report an income range. Records are kept of numbers of persons served who fall below state income guidelines.

The current vehicle for administering the program is a 22' Fleetwood Jamboree Recreational Vehicle which has a lounge area, a kitchen area, a bedroom, and a bathroom. The original vehicle was purchased as a shell and outfitted to resemble a more traditional clinic. Because of the problems we encountered in completing the outfitting of the first vehicle, and because there were insufficient funds to have this done commercially, we purchased a second vehicle which was outfitted more like a recreation vehicle. Clients, by the way, verbalize that they like this second unit much better than the first vehicle. They appreciate the comfort of the current unit, the relaxed atmosphere, and the windows which provide a sense of openness.

The Senior Aide greets the clients in the waiting area and obtains information from them. The nurse sees the client in the examining room (which was the bedroom). Screening equipment is stored in the kitchen area. The layout of the unit is conducive to both ease in flow of traffic and privacy.

The unit travels throughout a six county area, four days a week, 12 months per year. Most of the time is spent outside Vanderburgh County because the other five counties (Posey, Spender, Gibson, Warrick, Perry) are primarily rural areas, have fewer programs available to them, and are felt to have the greatest need for the program. These six counties comprise Area 13-B for which the funding agency is responsible.

Through a process of communication with persons in the areas, and trial and error, sites have been identified where the greater number of clients will be seen. Frequency of visits to the site is determined by numbers of clients seen, as well as need. Sites visited by the unit include: senior centers and nutrition sites (the most numerous type of site), apartment complexes, housing areas, churches, day care centers, and a legion hall, a post office, a grocery store, a gas station, and a fire station. Currently, we visit 40 different sites.

Communication to clients regarding the unit's schedule is accomplished by several means. A monthly schedule is prepared in advance and posted on the unit. In addition, the schedule is mailed to key persons in the area who post the information (e.g., Senior Citizens Center Directors). Also, all local and area newspapers publish the schedule. Clients are seen on a first come, first serve basis.

We have seen approximately 5,000 different clients since the beginning of the program. During the past three years, there has been an average of 3,000 visits by clients to the program each year. This includes new as well as returning clients. Of these, approximately one-fourth are 60-64 years of age, one-fourth are 65-69 years of age, and one-half are 70+. Three out of every four clients are female. Approximately one-half fall below state income poverty guidelines. The vast majority of clients are white, because of the small percentage of non-white residents in the countries served. However, one Senior Center for blacks in Evansville is included in the mobile unit itinerary.

Number of clients seen at each site varies from two to 30, with an approximate average of around 20 clients visits per day. At those sites where there are fewer clients to be seen, the unit is scheduled for shorter periods of time, e.g. 9:00 - 12:00 pm and 1:00 - 4:00 pm,. with the nurse traveling to two sites rather than one.

Group educational programs average approximately 12 per year with 10-20 persons attending each program. The programs are usually conducted at Senior Citizen Centers where the unit is scheduled. Students assist with these programs. Glaucoma, accidental hypothermia, exercise, and diet are examples of topics for the programs.

Clients are typically the well elderly, i.e., those elderly who function adequately in the community with a minimum of support. Presenting health problems include the full range of possibilities. Examples of common recurring problems include: grieving over loss of significant other, inadequate knowledge of disease process and/or medications, abnormal blood pressure and blood sugars, abnormal heart beats/sounds, obesity, constipation, non-compliance with medical regime, inadequate finances, confusion, anxiety, inadequate information about diet, and abnormal constituents in the urine or feces. Assessment, active listening, provision of emotional support, giving information and referring comprise the major nursing interventions.

The original grant was awarded to the Gerontology Center by the Southwestern Indiana Regional Council on Aging (SWIRCA) in December 1977. Title III funds from the Older American's Act in the amount of $41,000, were awarded for the development of the program during 1978. Of this, $30,200 was spent on the purchase of the unit and its equipment, and for outfitting the unit. The University of Evansville provided matching funds through the provision of administrative time, secretarial support, time of maintenance personnel, rent, utilities, van insurance as well as other miscellaneous in-kind resources. Approximately $1,800 was also provided by the Helene Fuld Foundation for a portion of the upfitting and equipment. Total cost of the program during the first year was $52,678. This included in-kind resources in the amount of $9,700.

The program has continued to receive yearly federal funding ranging from $15,000 to $21,000. Currently the amount awarded is $21,000 which pays the nurse's salary. Additional expenses for operation of the program are covered by client donations which have averaged $2,000 per year for the past three years and in-kind resources from the university.

Maintenance problems with the original unit were becoming a nightmare and threatening survival of the program as originally conceived. In November 1984, SWIRCA through collaboration with the state agency on aging, obtained an additional $17,000 for purchase of a new vehicle. A local recreational vehicle dealer accepted $13,000 and the old vehicle for the new unit (valued at $35,000). Remaining funds paid maintenance bills on the old unit.

Community response to the program has been consistently positive from the beginning. We have more requests for the program than we can meet. Personnel working with the elderly praise the program and express a desire for the program to continue. Clients visits continue to increase. The allocation of additional funds for purchase of a new vehicle by SWIRCA indicated their satisfaction with the program.

Words of wisdom to be shared with colleagues who are about to embark upon a similar venture evolve around technical difficulties of maintenance and data collection. The most irritating, recurring problem has been maintenance. Costs were underestimated in the beginning and we found ourselves shifting funds from salary to maintenance with concurrent program delays. Breakdowns were more frequent than anticipated. Costs were higher than anticipated. Moreover, we found that not only did program directors not know about maintenance, neither did university maintenance personnel nor most automobile businesses. We learned, painfully, that recreational vehicles are unique vehicles and need specialists for proper maintenance. Our new unit was purchased from a local dealer who can also provide the needed expertise in service.

Another problem area is data collection for analysis and research. We have been disappointed in our capacity to perform these activities. What we have found is that the nurse in the field is too busy "doing" to adequately participate in these activities. The situation is similar to asking a staff nurse on a busy hospital unit to develop forms, develop services, admit patients, assess the patient, deliver care, and simultaneously to do research. The addition of the Senior Aide assistant has improved our daily record-keeping activities, but has still fallen short of our expectations. I would encourage anyone developing a similar program to consider additional, separate human and technical resources necessary to achieve this goal.

Physicians have, for the most part, accorded us benign neglect. A few physicians have been active sup orters from the beginning. During the early years of the program, some physicians would discard test results which were sent with the client. Increasingly, we hear that physicians are referring clients to the unit for tests, e.g., blood pressure and blood sugar levels. This year, upon request of the Vanderburgh Medical Society, the Mobile Health Unit will be a part of that organization's health fair.

Initially there was concern with how our referral system would work. Our policy has been to refer clients back to their personal physician for assistance with medical problems. In the event that clients do not have a physician, we have a list of physicians in each county who are willing to see new clients. We have a physician who serves in an advisory capacity to the program, but he does not see individual clients. This approach has seemed to allay physician fears of competition with their services.

Long range funding of the program remains uncertain. The recent allocation of funds for the purchase of a new vehicle has relieved an immediate crisis. However, we are dependent upon federal funds for salary of the nurse on the unit. Should these funds be withdrawn, the program would require modification. It is possible that a fee-for-service structure may provide sufficient funds to maintain the program in a more limited form. Another possibility is that one of the teaching faculty be assigned to the program to operate the program as a clinical laboratory for students. Third party payment may be a possibility in the future.

Uncertainty and change within the health care system, nursing education, and the federal budget make long range predictions difficult. In spite of this, I remain hopeful of the future of this program. The program has met a need. I believe the program will continue as long as we remain flexible, continue to listen to the concerns of the elderly, and adapt to meet the needs which are expressed.

Health Promotion: The role of nursing faculty

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Health care in the U.S. is rapidly advancing toward a focus of health promotion. This change is only to be expected since morbidity and mortality rates have a high positive relationship to chronic disorders caused by life style (Stachnik, 1980). The development of the major killers, heart disease, respiratory disease, and various cancers, is strongly influenced by life style--including diet, exercise, response to stress, and smoking habits. As health care emphasizes prevention first and cure second, nurses must capitalize on the shift by expanding and reinforcing their roles as helpers to clients who seek to maintain and optimize their individual healthy states.

Nursing faculty, in addition to their academic responsibilities, should also be promoters of health within the academic community. DePauw Nursing Faculty have chosen to meet this responsibility through a Health Promotion Project. The purposes of the project were twofold: 1) to promote good health habits of clients, and 2) to increase visibility of nursing expertise.

In the fall of 1978, the DePauw University School of Nursing obtained $3,500 in cash gifts from two anonymous donors. These funds were matched by the Equitable Life Assurance Society of the United States, the University's health insurance provider. One of the donors explained his support by saying "I am deeply involved in the change from corrective care to preventive care, I believe that health promotion means better health and less expensive health care."

The faculty decided to use the Hall and Zwemer Health Hazard Appraisal, developed in the Department of Medical Education of Methodist Hospital, Indianapolis, Indiana to identify risk factors present in members of the academic community. The underlying principle of the Health Hazard Appraisal is that every individual faces certain definable "health hazards" from birth. Some hazards are determined by genetic transmission, others are associated with voluntary activities and behaviors (lifestyle). To the extent that it is possible to modify lifestyles, it is also possible to reduce health risks. The Health Hazard Appraisal consists of a questionnaire which identifies individual lifestyle factors, family history, and weight. Blood pressure and serum cholesterol measurements are obtained by health providers and recorded on the questionaire. A computer program compares the individual's risks with those of others of the same age, sex, and race. The individual's risks against the overall average risk of developing or dying of various ailments are then rated. The program identifies an appraisal age--"the age of the average person on the same race, sex, age with a total ten year risk similar to the total individual risk of the patient being appraised" and an achievable age--"a representation of the lower ten year risk projected upon compliance with the intervention prescriptions" (Hall & Zwemer, 1979).

The names of 200 individuals were randomly chosen from employment files of the University. A letter of explanation and an invitation to participate was sent to the selected sample. One hundred and seventy-nine individuals, 92 males and 87 females, agreed to participate. In March 1979 the participants completed the Health Hazard Appraisal Information Form, had a blood sample measuring serum cholesterol drawn, and had a blood pressure measurement. Information gleaned was analyzed using a computer program. The "age" means for the sample can be seen in the Table 1.

Table 1

HEALTH HAZARD APPRAISAL "AGE" MEANS

N=79

CHRONOLOGICAL AGE	48.9 YEARS
APPRAISAL AGE	47.7 YEARS
ACHIEVABLE AGE	42.9 YEARS

Note that in this sample, the appraisal age mean was 1.2 years younger than the chronological age mean, and the achievable age mean was 6 years younger than the chronological age mean. Four prevailing risk factors were identified in this sample population. High serum cholesterol was the highest risk factor, excess alcohol consumption, overweight associated with lack of exercise, and smoking were second, third and fourth respectively.

Approximately 44 percent of the sample had elevated serum cholesterols. The cholesterol risk factor was determined from the Framingham study (Hall and Zwemer, 1979). Thirty-four percent indicated drinking habits of greater than seven drinks per week. Thirty-two percent were more than 20 percent above their ideal weight and twenty-eight percent identified themselves as smokers who smoked more than one pack/day. In addition, approximately 35 percent of the females in the sample reported lack of an annual PAP smear and/or self breast examination.

Incidently, the project was much publicized. One of the nearby television stations filmed the data collection activities and showed the film clip on the evening news. The Chronicle of Higher Education reported the project with a photo, and local and nearby city newspapers ran stories about the project. As a result of the publicity, requests for information were received from twelve states and one Canadian province.

Lifestyle changes could move the participants toward their "achievable" ages. Individual results, with appropriate intervention prescripcription, were sent to each participant. They were encouraged to share a copy of the results with their physicians. In addition, they were invited to attend a series of health seminars. The seminars were held at monthly intervals throughout the academic year. All seminars were conducted by School of Nursing faculty members. Topics included the following: The Aging Process; Smoking and Its Effects; Drug Use and Abuse; Many Faces of Depression; Hypertension and Coronary Artery Disease; Adult Onset Diabetes; Coping With Stress; Nutrition and Fadism. Sample flyers announcing the seminars were mailed out to stimulate interest. After the first series of seminars, a questionaire was sent to the original participants. They were asked to evaluate the seminars and identify topics they would like included in the next series. As a result of this survey, the following seminars were given during the second academic year: How to Quit Smoking (repeated); Cardio-Pulmonary Resuscitation; Stress and Anger; Rights of the Health Care Consumer; Parenting and Grandparenting; Depression; Child Abuse. Teachers and administrators from Greencastle, Indiana and the surrounding school districts were invited to the seminar on Child Abuse.

The CPR class was especially popular. The class was taught by two American Health Association CPR instructors who were also nursing faculty members. In response to multiple requests, faculty have continued with yearly CPR classes. These classes are open to the entire academic community. In addition to initial certification in CPR, a recertification class is also offered.

After two years of health seminars, the faculty believed that a health fair would provide more members of the community with the opportunity to learn about health promotion. The first health fair was held in April of 1982. Since then, a yearly health fair has been held one day during spring registration. Health stations, manned by nursing students and faculty, are located at four campus sites. Health literature is available at each site, visitors can also have their blood pressure measured, take a stress test, and have their blood sugar and expiratory peak flow respiratory volumes evaluated. Individual health teaching occurs as time and space permit. Any individual, not known to be hypertensive, who has a blood pressure reading greater than 140 systolic and 90 diastolic is asked to return to the station for a blood pressure recheck. If the elevation persists, the individual is asked to come to the School of Nursing office for rechecking within the week. If the elevation still persists, appropriate referrals are made. During the past three years approximately 50 individuals have been referred to their physicians for further evaluation.

Holmes and Rahe's stress test is used to measure life stresses. Biodynamics Chemstrip b G™ is used to measure blood sugars. A reading above 120 mg is considered abnormal and the participant is told the result. The Wright Peak flow meter is used to measure peak expiratory flows. The participants' values are compared with normal values as identified on a graph available at each station. Each participant is presented with a card on which the results of the screening examination are written.

Five years after the initial health hazard screening, 69 of the 179 original participants agreed to be retested. The same Health Hazard Appraisal Information form was used. Nursing faculty recorded blood pressure readings on the appraisal form and technicians drew blood for a serum cholesterol reading which was also recorded on the appraisal form. The "ages" of this group can be seen in Table 2.

TABLE 2

HEALTH HAZARD APPRAISAL "AGE" MEANS

N=69

CHRONOLOGICAL AGE	53.2
APPRAISAL AGE	53.5
ACHIEVABLE AGE	47.7

A comparison of the "age" means of the 69 participants who were tested in 1979 and again in 1984 can be seen in Table 3.

TABLE 3

HEALTH HAZARD APPRAISAL "AGE" MEANS

1979 and 1984

N = 69

	1979	1984
CHRONOLOGICAL AGE	48.5 years	53.2 years
APPRAISAL AGE	47.7 years	53.5 years
ACHIEVABLE AGE	43.4 years	47.7 years

In the 1979 tests, the appraisal age mean was younger by 0.8 years; in the 1984 test, the appraisal age mean for this same group was older by 0.3 years. The achievable age mean for this group in 1979 was 5.1 years younger than the chronological age mean as compared with 1984, when the achievable age mean was 5.5 years younger than the chronological age mean.

A comparison of the means of factors tested, blood pressure, blood cholesterol and weight, can be seen in Table 4.

TABLE 4

COMPARISON OF HEALTH HAZARD APPRAISAL FACTORS,

ORIGINAL AND RETESTED SAMPLE

N = 69

FACTOR	1979	1984
SYSTOLIC BLOOD PRESSURE	126.6	131.5
DIASTOLIC BLOOD PRESSURE	83.9	81.2
BLOOD CHOLESTEROL	241.7	245.1
WEIGHT	156.4	157.2
IDEAL WEIGHT	139.0	138.4

Only two prevailing risk factors were indicated in the second set of data--high serum cholesterol and smoking. Forty-four percent of the retested sample had elevated serum cholesterols and twenty-five percent of the sample identified themselves as smokers. Excess alcohol consumption and lack of exercise were not prevailing risk factors on retest. Some participants reported weights above their ideal weights, although as a group, the weight mean increased by only one-half pound during the five year period.

Using the student t Test, two factors, systolic and diastolic blood pressure, were significant at less than the .05 level. These results can only be classified as serendipitous because of lack of control. Only one blood pressure reading was taken at pre and post-test, the blood pressure equipment was not necessarily the same for each measurement, and the same personnel did not necessarily repeat the blood pressure measurement. It is interesting to note that the significance for the systolic pressure was an increase and the significance for the diastolic pressure was a decrease for an overall increase in pulse pressure. The divergent findings also have to be interpreted in light of the fact that the sample population had aged by five years, with cardiovascular compensation.

It may be that the participants were influenced to decrease their alcohol consumption and increase their exercise as a result of the seminars and health fairs. It may also be just a coincidence that more faculty and staff are taking advantage of the University's recreational facilities, but it may also be that they received a "push" from the School of Nursing Health Promotion Project.

These data do not prove that participation in this project has made members of the DePauw academic community healthier. However, the goal of the project have been, at least, partially met. The participants have been made aware of the health risks and they have been provided with information to help them reduce these risks. All members of the academic community are able to avail themselves to health promotion literature, health screening, and individual health counseling. The yearly health fair will continue. There are plans to retest the 69 original participants in three years.

The second purpose, increased awareness of nursing faculty expertise, has been met. It is evident in the ever increasing number of health fair paricipants, increased numbers of requests for health information from faculty, and increased opportunities for faculty participation in health related community events.

All nurses should be promoters of health. Nursing faculty are not exceptions, and at DePauw we have chosen to meet this responsibility within our own academic community through this project. We are encouraged by the project's potential for improving health status of its participants, and we hope to expand and improve it.

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Self Health Assignment: A Curriculum Innovation

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Conceptual Models of Health Adapted for Self-Assessment

In exploring the concept of health, the authors did not limit their scope to one definition of health. Instead, their purpose in this collaborative task was to explore practical applications of the concept of health. Whether or not one believes that it is important for nurses to measure and define health as a basis for nursing practice, the authors believe that students of nursing must be taught to view both the concrete and abstract factors influencing health. Due to the time constraints of a ten-week academic quarter, the authors agreed on Hettler's conceptual model which includes four parameters that contribute to health and quality of live (Hettler, B., Eisenrath, D., & Leafgren, F., 1980).

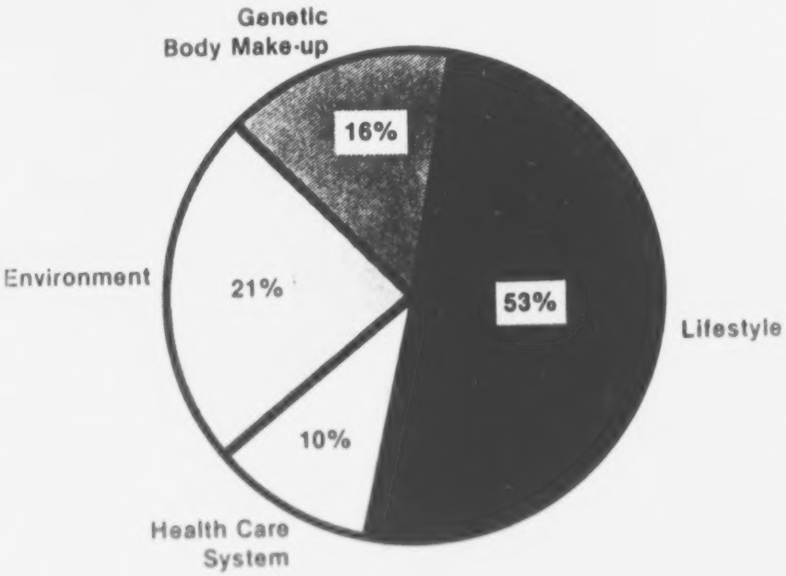

Figure 1 Contribution of factors to quality of life and health, by percent, adapted from Hettler et al., 1980

The four factors are shown in Figure 1. Genetic factors make up 16 percent, environment 21 percent, health care systems 10 percent, and lifestyle was found to contribute 53 percent. In this model, not only does lifestyle comprise the largest percentage of the contribution, but it is also the area in which the client himself can exert major control. Each individual's choice is influenced by perceived goals or valued outcomes, and determines the behavior he or she engages in hour by hour. Lifestyle is defined by Hettler (1980) as "all of one's behavior collectively," which ultimately affects health status. A potential for lifestyle change is also the area most amenable to independent nursing intervention toward the goals of health promotion.

Only recently has nursing as a profession seriously re-challenged the medical model as society's standard for viewing health. In reviewing the writings of Florence Nightingale, one can certainly recognize health as a nursing concept in its own right over a century ago.

Florence Nightingale's (1859) visionary approach expressed:

> The very elements of what constitutes good nursing are as little understood for the well as for the sick. The same laws of health or of nursing, for they are in reality the same, [pertain to] the well as [to] the sick. The breaking of these laws produces only a less violent consequence among the former than among the latter, - and this sometimes, not always" (p. 192a).

And more than a century later Belloc and Breslow (1972) stated:

> "It's what you do hour by hour, day by day, that largely determines the state of your health; whether you get sick, what you get sick with, and perhaps when you die" (p. 409).

Nightingale's laws of health and nursing activities taken together with Belloc and Breslow's daily practices that determine the state of one's health are really saying the same thing - that these practices have consequences for everyone, i.e., sick and well, young and old; and that some of these consequences are simply more observable or more immediate for some individuals than for others.

As early as 1894 Florence Nightingale (Monteiro, 1985) was already firmly expressing her health values in her two-page pamphlet regarding laws of health. In it she wrote: "It is much cheaper to promote health than to maintain people in sickness". Health care professionals will recognize this as being just as relevant today, if not more so - than when it was first written.

Student Assignment of Self-Health Assessment:

> "Health is not only to be well, but to be able to use well every power we have." Florence Nightingale (1859, p. 192a).

Pender (1982) stated the importance of a flexible and individually tailored plan for health promotion throughout the lifespan. In order for students to experience this health promotion plan, each was assigned to conduct a systematic assessment of "self" as a client. Apart from acknowledging that nurses may become important role models for others, there is yet another overriding dimension to examining self-health. As Hettler (1984) stated, It seems ludicrous to prepare student(s) for life-time careers in their areas of interest and not prepare them for the responsibilities of maintaining their lives.

In a recent class session of "Synthesis of Health Concepts", the authors informally polled the class of 60 students using the seven health behaviors identified by Belloc & Breslow (1972).

1. Don't smoke cigarettes
2. If you drink, do it moderately
3. Eat breakfast
4. Don't eat between meals
5. Maintain normal weight
6. Sleep about eight hours each night
7. Exercise moderately

It was discovered that only four of the 60 nursing students regularly adhered to the seven practices identified with a healthy lifestyle. In subsequent classes of similar size, where the same questions were asked of both male and female nursing students, no students indicated that they adhered to all the seven "healthy" practices.

Blattner (1981) has proposed that:

> a nurse who can look at and critique her own self-responsibility, caring, human development, stress, lifestyling, communication, problem solving, teaching/learning, and leadership and change processes, is a nurse who can learn to assess these processes in clients. A nurse who is engaged in the ongoing task of self-development, lifestyle modification, learning, and change is one who can nurture that striving in a client (p. viii).

It was this intention, and with this long-range goal of transfer of learning to nursing practice, that the self-health assignment was pursued. This assignment is part of the course, "Concepts of Health" at Level II in the present curriculum, (see "Self Health Assessment", p. 82).

Implementation of the Assignment

The approach was initiated in 1979 and has been revised to this present format. The assignment was divided into three phases: 1) self assessment and plan, 2) goal achievement and analysis, and 3) evaluation and synthesis. At the beginning of the quarter the students assessed their own health to the extent it was personally comfortable and prepared a plan which identified strengths and goals for improvement. The students were also directed to explore their own definition of health and to include it in the initial phase of the assignment. The first phase involved prioritizing health concerns arising from compiled personal assessment data. This assessment became the basis for the initial plan of action.

The initial plan of action was determined by the student's assessment of his or her health. Their objectives were to: 1) identify factors in their lifestyles which were amenable to nursing intervention that would ultimately improve their quality of health, 2) develop and implement a plan of care that would enhance personal health status, and 3) increase health awareness in order to function optionally, to achieve an enhancement of health with the expected outcome of a more effective and efficient way of life. For purposes of feedback and consultation regarding feasibility, the plan was submitted to the instructor.

The most frequently chosen priority goals in one student group were: 1) increase exercise, 29.1 percent; 2) decrease stress, 25.5 percent; 3) increase weight loss, 14.5 percent; 4) stop smoking, 9.1 percent; and 5) incorporate better nutritional practices, 7.3 percent. Among the least frequently selected categories were: 1) reduce risk of alcoholism, 2) incorporate regular breast self-exam, 3) decrease depression and increase feelings of self-worth, and 4) modify sleep pattern. Two students (3.6 percent, each) chose to increase efficiency via time management and increase socialization.

The students submitted reports of their progress at midquarter for the instructor to provide suggestions regarding their goal achievement. Modifications, barriers to success, and a personally meaningful reward system were expected to be a part of the progress report. Most students found modification necessary, recognized barriers, and realized the importance of a reward system.

The third and final phase of the assignment was a paper which included a synthesis of all activities, as well as accomplisments and explanations for goals not achieved. Students again included their definition of health, noting whether it had undergone revision or change during the quarter. In addition, integration of five current publications, one with a research focus relating to their goals were required. These readings promoted their expanding knowledge of health research, as applied to the established goals. As an appendix, the students were to attach personal contracts derived from Pender's book, and other tools used in their self-health assessment.

Evaluation of the Assignment

One of the best learning experiences came from the students' sharing of goals and progress with their classmates. This discussion activity helped students to understand the difficulties of compliance even when goals were perceived as personal priorities. Interpersonal sharing was generated among the students, often with a sense of humor. What finally emerged were helpful suggestions and a sense of genuine understanding for the experiences of others.

Students valued this project as a favorite assignment because they invested in themselves as clients. This feature was evident in the degree to which they took feedback seriously and frequently initiated personal contact with faculty.

Faculty became more aware of the numerous stresses which nursing students experience. In addition to their academic credit loads and varied hours of clinical labs, they bring to school added role expectations from both their cultural and family obligations. The faculty noted repeated instances where reductions in student aid, as well as increased tuition fees resulted in the need to work more hours. The role strain of many students' lifestyles became physically and emotionally draining, see Figure 2.

It was the authors' belief that students need to have positive educational experiences. This would help form a basis for developing effective coping strategies to minimize the complexities that may adversely influence the health and lifestyle of future health care providers.

Through this assignment students have become aware of certain parts of their lifestyle which need modification and have made positive changes in their current behaviors. For example one student dropped a course to lighten her credit load so that she could better cope with her family responsibilities. Many students systematically increase their exercise by enrolling in aerobics classes, walking to school, and engaging in seasonal sports.

The grading of the assignment was not adversely affected if goals were not achieved in the given time frame of an academic quarter. However, the process of analysis was critiqued for grading, in terms of students' ability to identify particular challenges and obstacles faced, degree of environmental support, as well as appropriate reward systems mobilized.

It was the authors' premise that nursing educators should facilitate their students' ability in accomplishing the following:

1. Identify own lifestyle pattern;
2. Identify own needs, strengths and priorities to be addressed;
3. Interpret the complexity of their responses to goals of lifestyle changes;
4. Apply similar health oriented patterns to enhance the lifestyle of future clients; and

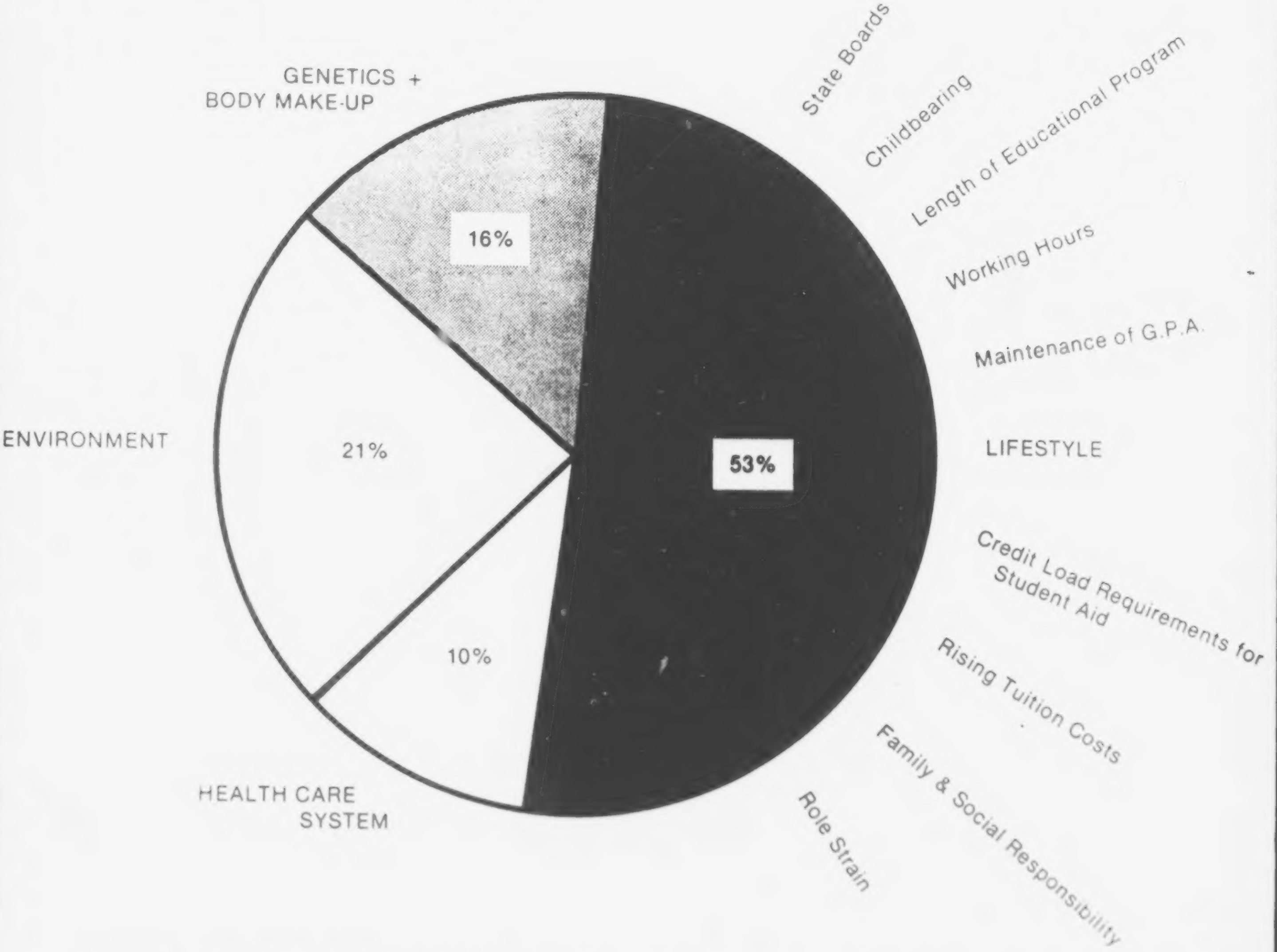

Figure 2. Role strains in lifestyle identified by students. (Adapted from Hettler et. al., 1980)

5. Integrate health-oriented research findings into self health interventions.

Future study by nursing educators of nursing students' responses to health and lifestyle changes is important. For the professional nurse, there is a great need to identify healthy patterns of coping in one's own life, as well as to facilitate effective balance in the selected lifestyles of clients.

Examples of student comments:

> I felt that this was a very good assignment. We didn't just talk about health and what it should be like, but we also attempted to do something about it. It was very practical, and I also learned a lot about the forces affecting behavioral change.

> Self-health awareness and practice of sound health habits are an essential part of being an effective health professional. I believe that role-modeling is one of the most important factors in encouraging behavior change in others. In addition, increasing one's wellness will increase satisfaction with life and energy to accomplish tasks while still enjoying leisure time.

Concepts of Health
Level II

Self Health Assessment

Purpose: To assess and implement a plan for a lifestyle modification.

"A plan for preventive care throughout the life span is as important as a plan for care in illness within the hospital setting." (Pender, 1982, p. 41)

Use Chapter 5 in Pender for your self health assessment. If some questions are too sensitive or personal, omit them in your writing, but acknowledge the importance and sensitivity of all areas as you would with clients.

Use the Outline of Chapter 8 in Pender for the format of the assignment. Students change the word "client" to "self" as used the the reading. Most of Units I, II and III will be helpful in this assignment.

This assignment will be divided into three phases with specific due dates. The suggested format is:

1. 25 points. Submit your plan to your clinical instructor by ________. Answer questions on p. 178-9 in Pender and 181-184. Include your definitions of "health".
2. 25 points. Submit a progress update with modifications for revision and log of activities to this point.
3. 50 points. Final paper including a synthesis of all activities and readings. Include your own definition of health at the beginning and end of the quarter. State whether they are the same or whether you perceive them as different and give rationale with comparison or support or at least one author. Include copies of al forms used such as: contracts, journals, force field analysis, locus of control.

DUE: ________________________

The paper must include at least five relevant, current references with at least one being a research article. These must be other than required readings and course handouts.

8-10 page limit typed, double spaced. This does not include the forms.

NO LATE PAPERS WILL BE ACCEPTED

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Cognitive Dissonance and Smoking Behavior of Registered Nurses

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Does smoking behavior of registered nurses represent a real lack of knowledge or a method of reducing cognitive dissonance? Is there a relationship between cognitive dissonance and the smoking behavior of registered nurses possessing at least a basic nursing degree? This 1983 study attempts to provide information about these two questions.

The smoking prevalence rate of nurses has been studied for several years. Although the proportion of adult women smokers has declined to 28 percent since 1976 (U.S. PHS, 1980), studies in the past have indicated that the percent of smokers has been higher in nurses than in the general female population (Eyres, 1972; Green, 1970; U.S. PHS, 1977; U.S. PHS, 1979). Statistics from a 1975 study of nurses' smoking behavior revealed that the proportion of nurses who smoke rose from 37 percent to 39 percent between 1969 and 1975 (U.S. PHS, 1977) while other categories of health professionals, i.e., physician, dentist, and pharmacist, had reduced smoking rates between 1969 and 1975. Recent studies are indicating a trend toward a decrease in the number of nurses who smoke reporting percentages of 25.5 percent (Morra and Knobf, 1983), 25.8 percent (Steward, Leitar, and Demers, 1981), and 23.6 percent (Tagliacozzo and Vaughn, 1982).

This decreasing trend is favorable not only because of its beneficial effects on the nurses themselves, but also it has been assumed that nurses have been identified as communicators of health information and exemplars of healthy life styles (U.S. PHS, 1979).

Studies about nurses' perceptions of their role as exemplars show a variance among attitudes. An early study by Green (1970) reported that 25.5 percent of former smokers cited reasons for stopping to be related to the exemplar role, while Eyres' (1972) sample ranked this reason lowest of six reasons to stop. A more recent study found a shift in attitudes among nurses who continue to smoke in regard to their role as exemplars. Significantly fewer nurses who smoked agreed that a nurse should set an example by not smoking (Morra and Knobf, 1983). If the nursing profession fails to act as non-smoking exemplars, there is potential that they will not have a great impact in influencing women to stop smoking (Lewis & Lewis, 1977). The National Conference on Smoking or Health proceedings cite the problem of smoking among nurses as particularly important since nurses comprise more than half of the employees in the health occupation and because of the nurse's sustained contact with patients. The report identifies the failure of the nursing profession to act as non-smoking exemplars as resulting in a potentially negative impact on patients and the public (ACS, 1982).

The yet unresolved question is how to convince the nurses who are currently smoking of their importance as exemplars and health educators (Morra and Knobf, 1983). One of the primary interventions both to prevent smoking onset and to stimulate cessation is the dissemination of information concerning the risk of smoking (U.S. PHS, 1979). It is important to know how receptive the nursing population is to the messages on the hazards of smoking as these types of messages are likely to induce a state of cognitive dissonance in smokers (Tagliacozzo, 1981). Festinger (1957) refers to the terms "dissonance" and "consonance" as relations which exist between pairs of "elements". The elements refer to cognitions, or "knowledges", the things a person knows about himself, his behavior, and about his surroundings, which include his beliefs, values, and attitudes. Cognitive dissonance can be seen as an "antecedent condition which leads to activity oriented toward dissonance reduction" (Festinger, 1957, p. 2). Festinger's basic hypotheses are:

1. The existence of dissonance psychologically motivates the person to try to reduce the dissonance and achieve consonance, and,

2. when dissonance is present, the person will actively avoid situations and information which would likely increase the dissonance (Festinger, 1957).

Several studies have been conducted testing dissonance theory by examining the response of smokers to information about smoking. An early study found that a state of cognitive dissonance may have more influence on a person's evaluation of information than on his sensitivity to information (Feather, 1963). Brock (1965) replicated Feather's (1963) study together with the manipulation of commitment to exposure. The smokers preferred information denying a link between smoking and cancer in comparison to information asserting a smoking-cancer link.

Brock and Balloun (1967) found repeatedly, that smokers made fewer attempts than non-smokers to clarify a message affirming a smoking-cancer link. Johnson (1968) tested the number and types of rationalizations that smokers endorse in attempting to reduce their cognitive dissonance. The smokers were more willing than non-smokers to accept ideas which are congruent with the continuation of smoking. The smokers who announced an intention to quit endorsed fewer rationalizations.

Tagliacozzo (1981) was also concerned with smokers' receptivity to information on the health risk of smoking. The smokers were reluctant to re-expose themselves to information on the health risk of smoking, supporting Festinger's (1957) hypothesis about avoidance of dissonant information. The data also indicate a weak trend toward an increase in avoidance with increase in rate of cigarettes smoked per day, supporting Brock and Balloun's (1967) findings. Tagliacozzo (1981) also found differences between smokers and non-smokers in their general level of awareness of health-related issues. Smokers defined more health-related items as unknown than non-smokers.

One of the goals of this study was to determine the nurses' receptivity to information concerning the risk of cigarette smoking. This study is along the same lines as Feather's (1963), Brock's (1965), and Tagliacozzo's (1981) research and tries to determine whether the nurses who smoke differ from the nurses who do not smoke in the self-exposure of information on the health risk of cigarette smoking.

Purpose of Research Hypotheses

The purpose of this investigation was to determine the relationship between cognitive dissonance and the smoking behavior of registered nurses possessing at least a basic nursing degree.

Four research hypotheses were addressed:

1. Registered nurses who smoke cigarettes will demonstrate more cognitive dissonance in response to information about the risk of smoking than registered nurses who do not smoke cigarettes.

2. Registered nurses who smoke more cigarettes per day will demonstrate more cognitive dissonance in response to information about the risk of smoking than registered nurses who smoke fewer cigarettes per day.

3. Registered nurses who smoke will demonstrate more cognitive dissonance in response to information about the risk of smoking that contains ten "health risk" statements than registered nurses who smoke in response to information containing five "health risk" statements.

4. Registered nurses who intend to quit smoking will demonstrate less cognitive dissonance in response to information about the risk of smoking than registered nurses who do not intend to quit smoking.

Method Questionnaire

The content of the instrument was based on a questionnaire developed by Tagliacozzo (1981), to test whether smokers avoid exposing themselves to "dissonant" information. The questionnaire consisted of two parts, identified as Part I and Part II. There were two forms of Part I, identified as Form A and Form B. The two forms differed in the number of "health risk" statements as identified by the originator. "Health risk" statements were items that were directly concerned with the health risk of cigarette smoking. The remaining statements on the questionnaire were other types of information.

Part I: "What Do You Know About Smoking?" consisted of a 20 item questionnaire presented as a test of the individual's knowledge about cigarette smoking. Each subject was instructed to indicate whether or not they knew the item of information. At the end of the questionnaire, a statement instructed the subject to return to the beginning of the questionnaire to circle items that are very important for smokers to know.

Part II: "Smoking History" was designed to collect data about the smoking or non-smoking habits of the subjects. Questions were included about plans to quit smoking and attitudes and beliefs about smoking. Former smokers and non-smokers were asked about their reason for stopping and reasons that kept the non-smokers from initiating smoking for descriptive data.

A cover letter was attached to the questionnaire to introduce the questionnaire as designed to study the knowledge registered nurses posses about cigarette smoking. This approach was taken since exposure of the purpose of the research, namely to determine the relationship between cognitive dissonance and the smoking behavior of registered nurses, could influence the subject's response to instructions contained within the questionnaire. Participation in the study was voluntary.

Sample

The investigation was conducted in a midwestern school of nursing located in an urban, university setting.

The population for this study was female, registered nurses, possessing at least a basic nursing degree, such as a Bachelor of Science in Nursing degree. Due to the large number of faculty members and students in the sample, 120 faculty members and students were randomly selected from all possible faculty members and students by using a table of random numbers.

Every second name on the list of 120 subjects received Form A of the questionnaire, while the remaining subjects received Form B. The questionnaires were distributed to the subjects by mail and returned to the investigator by mail.

Measurement of Variables

Cognitive dissonance was measured by the subject's compliance with the instruction in Part I of the questionnaire to return to the beginning of the list of statements that they had already read and to circle the statements important for smokers to know. The possible range of responses was 0-20. Lower numbers of circled items indicated more cognitive dissonance than higher number of circled items. It was assumed that the subject who did not circle any item did not want to return to the beginning to reread the information to select the appropriate items for smokers to know.

The smoking status of the subjects, i.e., smoker, former smoker, or non-smoker, was determined by the subject's response to a question in Part II. Smokers identified themselves as smoking cigarettes occasionally or regularly. Former smokers previously smoked cigarettes but have quit and do not smoke cigarettes. Non-smokers never smoked cigarettes.

The number of cigarettes smoked per day was measured by the subject's estimate of the actual number of cigarettes that she smoked per day.

The intent to quit smoking was measured by the response to the question asking the subject if she would like to quit smoking. Possible responses were "yes", "no", and "I am not sure".

The effect of whether more "dissonant" or threatening information does not does not affect the amount of cognitive dissonance demonstrated by the smokers was measured by administering two different forms of the questionnaire. Form A and Form B of Part I, were developed by Tagliacozzo (1981) to examine whether Form B, containing more "health risk" statements than Form A, could induce a stronger tendency in the smokers to avoid exposure to dissonant information. The expected results were that the questionnaire with more information on the risk of smoking would produce a stronger effect and more smokers would not circle items on Form B than on Form A.

Analysis of Data

The following approach was used to analyze the data for each hypothesis as presented earlier:

1. Former smokers were classified as non-smokers. The number of circled items was tabulated for smokers and non-smokers. Chi square was computed at the .05 level of confidence.

2. The number of cigarettes smoked per day was determined by the subject's response to question 3 in Part II: "Smoking History". The number of circled items was tabulated for each smoker. Cognitive dissonance was correlated with the number of cigarettes smoked per day.

3. Form B contains ten "health risk" statements while Form A contains five. The smokers' questionnaires were divided into two groups: Form A and Form B. The number of circled statements were tabulated for each subject. The mean number of statements was calculated for each group and a t-Test was computed at the .05 level of probability to compare the two groups and cognitive dissonance. This method tested the impact of the questionnaire as an entity on the smoker's response to information on the health risk of smoking.

4. The intent to quit smoking was determined by a "yes" response to the question "Would you like to quit smoking" in Part II: "Smoking History". The number of circled items was tabulated for the smokers who stated they would like to quit smoking and the smokers who would not like to quit smoking. Chi square was computed at the .05 level of confidence.

Results

The sample consisted of 43 Regular and Clinical faculty members and 40 full and part-time students enrolled in the M.S.N. and Ph.D. programs who returned completed questionnaires. Table 1 shows the number of the sample according to smoking status, i.e., smoker, former smoker, and nonsmoker and faculty member or student status.

The percentage of smokers in this sample was 22.89 percent. This percentage is lower than percentages reported in earlier studies. The percentage of faculty members who smoked (14.46 percent) was higher than the percentage of students who smoked (8.43 percent). (See Table 1)

Number of Cigarettes Smoked Per Day

The number of cigarettes smoked per day per person was grouped into three discriptive categories: "heavy", "moderate", or "light" smoker. Smokers who smoked more than one pack of cigarettes per day, i.e., more than 20 cigarettes per day were considered "heavy" smokers. "Moderate" smokers were the subjects who smoked 11-20 cigarettes per day and "light" smokers were the subjects who smoked 10 cigarettes or less per day. Table 2 presents the number of the smoking sample into "heavy", "moderate", and "light" smokers according to faculty or student status.

The percentages for light and moderate smokers were lower than Tagliacozzo and Vaughn's (1982) report of 41 percent (light) and 43 percent (moderate). The percentage of heavy smokers in this sample (37 percent) was much higher than Tagliacozzo and Vaughn's (1982) report of only 16 percent of the nurses smoking more than 20 cigarettes per day, and only slightly higher than Jacobson's (1981) report of 35 percent of nurses who smoked more than 20 cigarettes per day. The percentage of "heavy" smokers was much higher in the faculty sample (32 percent) than in the student sample (5 percent) (see Table 2).

The percentage of former smokers (35 percent) in this sample was higher than the 22 percent of former smokers among nurses and 14 percent for the U.S. adult female population reported in a 1975 study (U.S. PHS, 1977).

Hypothesis 1

The range of circled items for each group according to smoking status was: smokers (0-18), former smokers (0-15), and non-smokers (0-14). Four subjects who did not circle any item included one smoker, one former smoker, and two non-smokers. (See Table 3). The evidence was insufficient to demonstrate a relationship of dependence between cognitive dissonance and registered nurses who smoke, and does not support the first hypothesis ($X^2=0.41$, N.S. @ $p \leq .05$).

Hypothesis 2

The number of cigarettes smoked per day for each subject who smoked was correlated with the number of items circled in Part I of the questionnaire (See Table 4). The evidence was insufficient to demonstrate a correlation between the number of cigarettes smoked per day and the amount of cognitive dissonance demonstrated ($r=0.21$, N.S. @ $p \leq .05$). These results do not support earlier findings (Brock and Balloun, 1967 and Tagliacozzo, 1981) that suggest that smokers tend to increase avoidance of dissonant information as the number of cigarettes smoked per day increases.

Table 1

Number of Faculty and Students by Smoking Status

	N	Percent
Smokers:		
Faculty member	12	14.46
Student	7	8.43
Former Smokers:		
Faculty member	15	18.07
Student	14	16.87
Non-smokers:		
Faculty member	16	18.07
Student	19	22.89
Total	83	100.00%

Table 2

Number of Types of Smoker by Faculty or Student Status

	Heavy Smoker[a] n=7	Moderate Smoker[b] n=6	Light Smoker[c] n=6
Faculty member n=12	6 (32%)	3 (16%)	3 (16%)
Student n=7	1 (5%)	3 (16%)	3 (16%)

[a] Indicates 21 or more cigarettes per day.

[b] Indicates 11-20 cigarettes per day.

[c] Indicates 1-10 cigarettes per day.

Table 3

Contingency Table Showing Number of Circled Items by Smokers and Non-Smokers

	Smoker (n=19)	Non-Smoker (n=64)	Row Marginal
Circled 0-9 items	8	33	41
Circled 10-20 items	11	31	42
Column marginal	19	64	83

$X^2=0.41$, N.S. @ $p\leq.05$

n=83

Table 4

Summary of the Number of Cigarettes Smoked per Day and Number of Circled Items, Mean, Standard Deviation, and Correlation Coefficient

Number of Cigarettes Smoked per Day	Number of Circled Items
18	14
30	10
9	0
1	5
18	10
30	8
18	9
15	14
20	5
1	11
8	11
8	5
30	12
30	6
18	8
21	12
3	12
36	11
24	18

$\bar{X}=17.789$
s.d.=10.365

$\bar{Y}=9.526$
s.d.=4.018

r=0.21

n=19

not significant ($p<.05$)

Hypothesis 3

This hypothesis was designed to test whether different amounts of dissonant information would have different effects on the smokers' responses. In Form A, 25 percent, 5 of 20 of the information items were "health risk" statements. In Form B, 50 percent, 10 out of 20, were "health risks" statements. It was expected that Form B would have a stronger effect on the smokers than Form A. Only one smoker failed to circle any statement (See Table 5). The t-value was not significant and did not support the third hypothesis ($t={}^{-}$o.689, df=17, $p \leq .05$). These results were not consistent with Tagliacozzo's (1981) study.

Hypothesis 4

Sixteen (84 percent) of the sample of smokers said they would like to quit smoking. Eight (50 percent) of them stated they had definite plans to quit (See Table 6). The results were insufficient to support the hypothesis (X^2=.89, N.S. @ $p \leq .05$). These results are consistent with an earlier study (Tagliacozzo, 1981) in which there was practically no difference in the number of circled items between smokers who would like to quit and those who did not want to stop or were uncertain.

The smoker's response to the questionnaire seemed to be affected by whether or not she had definite plans to quit smoking. A Chi square was calculated at .05 level of confidence (See Table 7). The results suggest that smokers who plan to quit smoking circle more items, demonstrating less cognitive dissonance than smokers who do not plan to quit (X^2=4.96, $p \leq .05$). These results also support Johnson's (1968) hypothesis that states the dissonance of the smoker can be reduced by either his belief that he will discontinue smoking in the near future or by the endorsement of rationalizations which decrease the magnitude of the dissonance (Johnson, 1968)

Findings of the Questionnaire

The statements checked "I Did Not Know" most frequently were general information items. The "health risk" statement checked "I Did Not Know" the most on Form A was the item that states "The nicotine content in most cigarette brands is between .2 and 2.2mg". The "health risk" statement checked "I Did Not Know" the most of Form B was the item that states "At present, only one in twenty lung cancer victims survives". The differences between the mean number of "health risk" statements checked "I Did Not Know" for smokers and non-smokers was not statistically significant (See Table 8) ($t={}^{-}1.0180$, df=81, N.S. $p \leq .05$).

Smoking Behavior

The smokers' reasons for returning to the smoking habit included to keep body weight down or because their weight increased after they had stopped, stress, and to assist in relaxation.

Smokers who had definite plans to quit smoking described various methods. The most frequent answer was "cold turkey" (4 subjects, 50 percent).

Table 5

Mean, Standard Deviation, and t-value of Smokers: Form A and Form B

Group	$\bar{X}$	s.d.	t-value[a]
Form A (n=8)	8.750	4.323	
Form B (n=11)	10.091	3.679	$^{-}0.689$[b]

[a] df=17

[b] N.S. @ $p \leq .05$

n=19

Table 6

Contingency Table Showing Number of Circled Items for Smokers Who Would Like to Quit and Smokers Who Would Not Like to Quit

	Would Like to Quit (n=16)	Would Not Like to Quit (n=3)	Row Marginal
Circled 0-9 items	6	2	8
Circled 10-20 items	10	1	11
Column marginal	16	3	19

$X^2 = .89$, N.S. @ $p \leq .05$

n=19

Table 7

Contingency Table Showing Number of Circled Items for Smokers with Plans to Quit and Smokers with No Plans to Quit

	Plans to Quit (n=8)	No Plans to Quit (n=11)	Row Marginal
Circled 0-9 items	1	7	8
Circled 10-20 items	7	4	11
Column marginal	8	11	19

$\chi^2=4.96$, @ $p\leq .05$

$n=19$

Table 8

Summary of "Health Risk" Scores, Mean, Standard Deviation, and t-value, Smoker and Non-smoker Groups: Form A and Form B

Smokers (n=8)		Non-smokers (n=36)			
Form A		Former Smokers		Non-smokers	
Number of "I Did Not Know"	Mean Health Risk Score	Number of "I Did Not Know"	Mean Health Risk Score	Number of "I Did Not Know"	Mean Health Risk Score
2	.4	0	.0	1	.2
0	.0	2	.4	0	.0
1	.2	0	.0	3	.6
1	.2	2	.4	0	.0
0	.0	0	.0	0	.0
0	.0	0	.0	0	.0
0	.0	0	.0	0	.0
0	.0	0	.0	0	.0
		2	.4	0	.0
		0	.0	1	.2
		0	.0	1	.2
		0	.0	0	.0
		0	.0	1	.2
		1	.2	1	.2
		1	.2	2	.4
		0	.0	1	.2
				2	.4
				1	.2
				1	.2
				0	.0

Table 8 (continued)

Smokers (n=11)		Non-smokers (n=28)			
Form B (n=11)		Former Smokers (n=13)		Non-smokers (n=15)	
Number of "I Did Not Know"	Mean Health Risk Score	Number of "I Did Not Know"	Mean Health Risk Score	Number of "I Did Not Know"	Mean Health Risk Score
1	.1	1	.1	1	.1
6	.6	0	.0	0	.0
0	.0	0	.0	2	.2
0	.0	1	.1	3	.3
0	.0	0	.0	1	.1
1	.1	3	.3	0	.0
1	.1	3	.3	2	.2
0	.0	2	.2	1	.1
0	.0	0	.0	2	.2
0	.0	0	.0	2	.2
0	.0	1	.1	4	.4
		0	.0	1	.1
		0	.0	1	.1
				3	.3
				3	.3

$\bar{X}_1$=.0894 $\bar{X}_2$=.1296

s.d.=.1585 s.d.=.1465

t-value=$^-$1.0180

df=81

not significant (p<.05)

Smokers cited mostly social and personal occasions at various times in which a registered nurse has advised them to stop smoking. There was practically no difference between the mean number of cigarettes smoked per day by smokers who received advice by a registered nurse to stop (18.3 cigarettes per day) and those who did not receive advice to stop smoking (17 cigarettes per day).

Former smokers were asked to state the reasons that induced them to quit. The responses could be grouped into five categories: (1) knowledge-related, (2) patient-related, (3) significant other and family-related, (4) personal health-related, and (5) exemplar role-related. The most frequently cited reason for stopping was "knowledge of what it could do to me" (n=14, 48 percent). The percentage of former smokers in this sample citing reasons related to the exemplar role for quitting (10 percent) is much lower than Green's (1970) sample (25.5 percent). The results of this study are more comparable to Eyres' (1972) study in which the exemplar role as a reason to stop smoking was ranked the lowest of six reasons.

Fourteen (48 percent) of the former smokers stated that they tried to quit smoking more than once. The average number of times they tried to quit before finally succeeding was 2.86. Fifteen (52 percent) were successful at their first attempt at quitting. Of these subjects, nine smoked 1-10 cigarettes per day, four smoked 11-20 cigarettes per day, and two smoked 21-40 cigarettes per day.

Non-smokers were asked to describe reasons which kept them from becoming a smoker. The most frequent response was related to a dislike of the odor or cigarette smoke (22 subjects, 63 percent). The second most frequent reason was knowledge of physical adverse effects of cigarette smoking (8 subjects, 23 percent).

Discussion and Recommendations

The following factors reduce the ability to generalize the findings of this study to other registered nurse populations: (1) a sample of convenience was used even though the subjects were subsequently selected from the convenience sample using probability methods, and (2) the number of subjects who smoked was only 19.

This data did not support Festinger's (1957) hypothesis on the avoidance of dissonant information. The results also contrasted with Tagliacozzo's (1981) study in which there was a significant difference between the smoker and non-smoker groups and the number of subjects who did not circle any information item ($X^2=6.446$, df=1, $p\leq.02$). The results suggest that registered nurses who smoke do not demonstrate more cognitive dissonance in response to information about the health risk of smoking than registered nurses who do not smoke. Perhaps the results were influenced by the registered nurses' ability to pay attention to the instructions at the end of the questionnaire and the ability to comply with the instructions to return to the beginning to circle items important for smokers to know.

The data did not support Brock and Balloun's (1967) and Tagliacozzo's (1981) findings that suggest that smokers tend to increase avoidance of dissonant information as the number of cigarettes smoked per day increases.

Different amounts of dissonant information did not have an effect on the smokers' responses. These results are consistent with Tagliacozzo's (1981) study. Perhaps the sample of registered nurses influenced the selection of items on the health risk of smoking. The knowledge registered nurses with at least a Bachelor of Science in nursing possess about cigarette smoking may have made the selection of items easier and may have counteracted any stronger tendency to avoid exposure to the dissonant information on Form B.

Registered nurses who have a definite plan to quit smoking (n=8) demonstrate less cognitive dissonance in response to information about the risk of smoking than registered nurses who do not have a definite plan to quit smoking (n=11). The sample size necessitates cautious interpretation. These results support Johnson's (1968) hypothesis and suggest that perhaps the effort to reduce smoking should be directed towards smokers who have plans to quit, i.e., those with reduced cognitive dissonance, rather than towards those who do not have plans to quit or those who express a desire to quit, and have more cognitive dissonance.

The nurses' perceptions regarding their role as exemplar was particularly revealing. There were no smokers who cited the exemplar role as a reason to stop smoking. Only 9 percent of the former smokers cited exemplar reasons for quitting and these were related to family members. There were no non-smokers who reported the exemplar role as a reason for not initiating the smoking habit.

In general, these results support earlier studies indicating a trend toward a decrease in smoking. However, the prevalence of smoking among registered nurses continues to be a problem. Although this study indicates that cognitive dissonance is not related to the smoking behavior of registered nurses, except for the nurses who smoke and have a definite plan to quit smoking, it is not conclusive. The fact that 23 percent of the nurses in this study are smokers who recognize that smoking is bad for their health and who have the education and knowledge to make the decision to stop smoking but have not is cause for concern. Data suggest that registered nurses are not advising even their own colleagues to stop smoking. Further study of nurses' perceptions of their roles as exemplars needs to be pursued if we are to impact on both the nurse's and the public's smoking behavior.

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Self-care Agency Assessment in Health Promotion

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Wellness and health promotion are hallmarks of the changing health care delivery system. The traditional illness-oriented approach to care has increased costs, fostered passivity in consumers, and hindered effective use of health promotion research.

Health and health promotion have been conceptualized according to various philosophical orientations (Brubaker, 1983). Increasingly, recipients of health care are asking for a type of care that is much more than a focus on physical health or the prevention of specific diseases. From the point of view of many health-care consumers, health promotion is health care directed toward enhancement of well-being through processes that encourage individual responsibility.

As ideas about health care have undergone a shifting from physical disease treatment and prevention toward an holistic view of the individual seeking wellness, practitioners have begun to recognize the emergence of a new health promotion paradigm. Integration of a new paradigm or model into practice, according to Kuhn (1970), involves a gradual change in thinking about and acting on essential elements of the discipline. For nursing this reorientation of the recurring themes of health, person, nursing, and society is congruent with its historical basis and future directions (Fawcett, 1984).

With the health care system in transition, nurses must apply theory to clinical nursing practice to test and further develop conceptual frameworks that support the unique role of nursing in health promotion. A nursing framework that facilitates this thought change is the self-care model when used in a health promotion nursing practice. As developed by Orem (1980), the self-care model is based on the client's illness state and self-care deficit (Melnyk, 1983). Application of the model in a health promotion framework was described by Kinlein (1977). Dickson and Lee-Villasenor (1982) further refined the model through application and testing in a community-based nursing practice.

Nurses who use the self-care model in health promotion help clients achieve health results through strategies designed to facilitate exercise of the client's self-care agency. Philosophical bases for use of this model include beliefs about the client's ability to care for self and ability to make decisions about what is in the client's own best interests. Pender's (1982) Health Promotion Model provides a complementary organizing framework that can be used for assessing individual and modifying (demographic, interpersonal, and situational) factors that influence health-seeking behaviors. Respect for the client's integrity and assistance with the exercise of self-care agency occur as the nurse actively attends to the client's perspective, identifies self-care assets and deficits, makes judgments about the exercise of self-care agency, and helps the client select a course of action.

The majority of studies describing application of nursing frameworks in practice have been based on data resulting from clients whose illness state or its prevention is the stimulus for nursing care. There is a paucity of research describing client perspectives when the focus is health promotion. As a qualitative study, the significance of this research lies in the investigator's intent of helping to explicate the client's health-seeking perspective. The purpose of this study was to analyze client data resulting from nurse-client interactions when the focus was wellness and health promotion. The relationship between self-care agency assessment data and clinical nursing judgments evident in nursing diagnoses will be described.

Method

Using qualitative methods, the researcher examined phenomena resulting from nursing practice with clients in a health promotion, university-based nursing center. Guidelines for interpreting and communicating qualitative research, as developed by Knafl and Howard (1984), were used. The research focus on sensitization, that is helping the reader to understand the social world of the subject, was selected because of limited research on why clients seek nursing care for health promotion. Nurses need to identify why clients ask for care in order to describe nursing phenomena related to health promotion.

This study was based on previous research by the investigator in which four categories of care were identified through analysis of data representing "the essence of nursing in the self-care conceptual framework" (Dickson & Lee-Villasenor, 1982, p. 35). These categories included expression of need, self-care asset, self-care demand, and self-care measures.

The process of care can be described integrating these categories. After the client has made an appointment for nursing care, has arrived in the clinical setting, and has been greeted by the nurse, the client disclosed reasons for making the appointment. This was the expression of need, which contained data about the client's exercise of self-care agency as well as perceived needs of the client. The nurse responded with identification of self-care assets, which were patterns of self-care knowledge, values, and actions that made a positive contribution to the client's well being. As the interaction continued, the nurse made judgments about the client's self-care demand by formulating a nursing diagnosis of the exercise of self-care agency in relation to the client's expression of need. Self-care measures to enhance the exercise of selfcare agency were discussed and evaluated by client and nurse.

Setting

The setting for this study was a nursing center of a midwestern university school of nursing. It is the recognized health promotion clinic of the campus with programs and activities designed and conducted by nursing faculty along with undergraduate and graduate students, as well as community nurses. Offices for the provision of nursing care are private, quiet, and comfortable furnished.

Sample

The subjects for this descriptive study were three adults in good health who voluntarily sought nursing care from the investigator through an academic nurse-managed clinic. The sample consisted of two women and one man; the average age of the sample was 36. Two of the subjects had completed college and one post high school training. Two were married, one of whom had children; one subject was separated and also had children. All subjects were employed and caucasian. For each of these subjects, this nursing care was their first encounter with the nursing center.

Prior to data collection, this study was reviewed and approved by the Institutional Review Board for the Protection of Human Subjects of the University of Wisconsin-Milwaukee. Clients were free to choose whether not to have data from their appointments analyzed for purposes of this study. Participation in the study did not affect the nursing care provided.

Instrument

Kearney and Fleischer (1979) developed the Self-care Agency Scale, a 43-item instrument, to measure clients' exercise of self-care agency. This tool was intended to enable nurses to document effectiveness of nursing intervention by measuring increases in exercise of self-care agency. Four subcontracts contributing to the exercise of self-care agency were identified as: (a) an active verses a passive response to situations, (b) the individual's motivation, (c) the knowledge base of the individual, and (d) the person's sense of self-worth (Kearney & Fleischer, 1979). Evidence for content and construct validity and the test-retest reliability coefficient of .77 were described.

The Self-care Agency Scale has been used in practice and examined by other researchers. Riesch (1984) administered the instrument to childbearing women and their coaches using a pretest-posttest design to evaluate the effect of a childbirth preparation program on clients' exercise of self-care agency. As a result of factor analyses of the instrument, Riesch deleted nine items from the original scale. Subsequently, six, in contrast to the original four, subconstructs were identified: applying knowledge to self-care, positive response to situations, sense of self-worth, motivation, self-determination, and optimism. The investigator selected the revised Self-care Agency Scale for the present study because of the thorough analyses of the instrument by Riesch based on testing in clinical practice.

The revised Self-care Agency Scale shown on page 108 is a 34-item instrument that contains positively-worded statements such as "I make my own decisions" and "I seek information to care for myself." Items 3, 5, 7, 12, 17, 19, 22, 26, and 28 are worded negatively with respect to exercise of self-care agency. Subjects respond on a 5-point Likert-type scale from "Very Like Me" to "Very Unlike Me" with a scoring system of four to zero points for the positive statements and reverse scoring for the negative statements. The investigator used the terms like and unlike to replace characteristic and uncharacteristic on the scale to simplify language for the client (subject). The maximum possible score on the instrument is 136, reflecting the subject's current exercise of self-care agency to a high degree. This instrument is shown on page 110-111.

Procedure

The process of nursing care within the self-care health promotion framework depends upon the client's initiation in seeking care and ability to tell the nurse why care is being sought (i.e., expression of need). After greeting and helping the client to become comfortable, the nurse administered the Self-care Agency Scale telling the client that the information from the instrument would be used to help the client with whatever concerns prompted the appointment. The client then told the nurse why he or she sought nursing care. During the client's expression of need, the nurse actively listened to the client while making written notes of the words spoken. The self-care assets that the nurse subsequently identified were intended to help the client in the exercise of self-care agency. The client was not interrupted during the expression of need since the direction of the appointment was set by the client as the nurse attended to the client's perspective and expressed needs. The nursing diagnosis (selfcare demand) was the clinical judgment of the client's exercise of selfcare agency which provided a focus for designing health promotion strategies (self-care measures). The client selected strategies to evaluate in the continued exercise of self-care agency. Each appointment lasted about one hour.

Field notes recorded during clients' appointments were analyzed using content analysis at the manifest level. Assessment data were examined in relation to clinical judgments of nursing diagnoses. Client statements were categorized within response patterns and compared with defining characteristics of nursing diagnoses (Kim, McFarland, & McLane, 1984). Nursing colleagues knowledgeable in the use of the self-care concept and nursing diagnosis provided peer review of assessment data and nursing diagnoses. According to Knafl and Howard (1984), one purpose of qualitative research such as the case study is to serve as an adjunct to quantitative studies. This blend of both research approaches was attempted in the present study by comparing the content analysis of client data with clients' intitial scores on the Self-care Agency Scale. The Self-care Agency Scale developed by Kearney and Fleischer (1979) and revised by Riesch (1984) was administered to each client during the initial appointment. Client scores were calculated during data analysis.

Results and Discussion

A total of five appointments were analyzed, two for two clients and one for the third client. Analysis of data yielded support for three subconstructs of the exercise of self-care agency outlined by Riesch (1984). Client assessment data and Self-care Agency Scale scores revealed the need for client assistance in these areas as they relate to the exercise of self-care agency: (a) applying knowledge to self-care, (b) sense of self-worth, and (c) self-determination.

Nursing diagnoses were compared with the subconstructs of exercise of selfcare agency. The client with need for assistance in applying knowledge to self-care demonstrated indicators for the diagnosis of Anxiety due to Insufficient Knowledge about Psychophysiologic Factors associated with Menopause. One statement from this client was, "I'm concerned that I don't know enough. I want to go through this life stage in a healthy manner." The nursing diagnosis of Ineffective Coping with Changes in Marital and Employment Situations related to Inconsistent Communication and Valuing Patterns was made for the client whose assessment revealed a lowered sense of self-worth. Self-determination, as a subconstruct of exercise of self-care agency, was noted in the client whose nursing diagnosis was Potential Lowered Self-esteem due to Conflict with Role Expectations of Significant Others. Data from the Self-care Agency Scale were used clinically to help clients understand factors contributing to increased exercise of self-care agency in regard to their perceived needs. These clients demonstrated initial scores of 81, 97, and 107.

Field notes from the appointment with the client who had the highest score confirm a high degree of exercise of self-care agency since this client clearly articulated the perceived need, factors associated with it, what the client had done previously about it, and what was anticipated as a result of the nursing care. The client whose Self-care Agency Scale score was lowest at this time revealed a pattern of inability to focus concerns and related factors, so nursing strategies were designed to help the client exercise self-care agency during the appointment, as well as between appointments.

Clients came for nursing care for health promotion issues. The perceived needs and concerns of these clients did not fit in with the medical model of the health care system. Two of the clients were searching for ways to enhance their well-being while the third needed assurance that the experiences identified were normal and that measures could be taken to provide a sense of control and well-being. Each of the clients paid the established Nursing Center fee for the services.

Use of the Self-care Agency Scale as part of the assessment phase of the nursing appointment was effective in helping clients think about factors that facilitate actualizing their self-care potential. Nursing diagnosis of the exercise of self-care agency provided an organized focus to the nursing care, with health promotion strategies offered by the nurse for consideration. If these clients continue receiving nursing care, the Self-care Agency Scale will be administered again after three or four months.

More research of health promotion nursing care is necessary. The preliminary findings reported here should be interpreted and used cautiously. Studies by other investigators applying this framework in a health promotion nursing practice should be conducted. The exercise of self-care agency of more diverse and much larger samples should be examined. With larger data sets, clustering of nursing diagnoses within the subsconstructs of exercise of self-care agency would provide investigators with meaningful research hypotheses about health promotion strategies.

Development and testing of other self-care agency assessment instruments would add to nursing knowledge about factors contributing to clients' ability to act in their own behalf. Comparison of the instrument used in this study with Denyes' (1982) self-care agency assessment instrument of the adolescent is also recommended for clinical practice and research.

Academic nursing clinics enable faculty to generate and test nursing knowledge while facilitating the education of students about nursing phenomena. Health promotion needs that prompt clients to seek nursing care should be identified in the curriculum. The process and content of health promotion nursing care require continual evaluation in relation to educational outcomes.

The congruence of the self-care model with a wellness and health promotion approach to client care was demonstrated. Application of the self-care model in a university nursing center provided a framework for discussion of nursing theory from the perspectives of practice, research, and education. Continued analysis of nursing care data from the self-care model can result in the generation of new knowledge and refinement of the practice theory in health promotion. Documentation of theory testing is essential to the development of nursing as a scientific discipline. This study has attempted to provide support for the continued application of the self-care framework in practice to further theory development in health promotion nursing practice.

Table 1.

Revised Self-Care Agency Scale

Below are listed some feelings and actions people express about taking care of themselves and their health. Read each item on the left and determine if this feeling or action is very much like you, somewhat like you, somewhat unlike you or very much unlike you. Check the appropriate response to the right.

	VERY LIKE ME	SOMEWHAT LIKE ME	NO OPINION	SOMEWHAT UNLIKE ME	VERY UNLIKE ME
1. I would gladly give up some of my set ways if it meant improving my health.					
2. I like myself.					
3. I often feel that I lack the energy to care for my health needs the way I would like to.					
4. I take pride in doing the things I need to do in order to remain healthy.					
5. I tend to neglect my personal needs.					
6. I know my strong and weak points.					
7. I often put off doing things that I know would be good for me.					
8. I usually try home remedies that have worked in the past rather than going to see a doctor or nurse for help.					
9. I make my own decisions.					
10. I strive to better myself.					
11. I eat a balanced diet.					
12. I complain a lot about the things that bother me without doing much about them.					
13. I look for better ways to look after my health.					
14. I expect to reach my peak wellness.					
15. I deserve all the time and care it takes to maintain my health.					
16. I follow through on my decisions.					

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	VERY LIKE ME	SOMEWHAT LIKE ME	NO OPINION	SOMEWHAT UNLIKE ME	VERY UNLIKE ME
17. I have no interest in learning about my body and how it functions.					
18. I understand my body and how it functions.					
19. I rarely carry out the resolutions I make concerning my health.					
20. I am a good friend to myself.					
21. I take good care of myself.					
22. Health promotion is a chance thing for me.					
23. I have a planned program for rest and exercise.					
24. I am interested in learning about various disease processes and how they effect me.					
25. Life is a joy.					
26. I do not contribute to my family's functioning.					
27. I take responsibility for my own actions.					
28. I have little to contribute to others.					
29. Over the years I have noticed the things to do that make me feel better.					
30. I know what foods to eat and keep me healthy.					
31. I am interested in learning all that I can about my body and the way it functions.					
32. I seek information to care for myself.					
33. I feel I am a valuable member of my family.					
34. I understand myself and my needs pretty well.					

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Wellness at the Worksite

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Today 97 million Americans are employed. In the past, health care at the worksite has been limited to accidents and occupation-related illness. (Parkinson, 1982) The employee as well as the employer can benefit from health promotion programs that help individuals identify problems. Successful programs must have the support of management and be designed to meet the needs of the workers.

In 1980, statistics revealed an estimated 30.8 million workers have high blood pressure. Each year 26.7 million work days representing 1.3 million dollars in earnings are lost because of high blood pressure related cardiovascular disease. (USDHHS, 1980) A study released recently by the American Cancer Society reported private industry employers spend $1.6 billion each year on just four cancers; breast, cervical, colorectal and lung. Annually 32,000 workers die as a result of these cancers. ("Industry Cancer", 1982) Yet, if worksite programs could be developed to identify and refer these conditions the numbers could be significantly reduced.

Nurses are instrumental in developing programs that provide the opportunity for workers to evaluate their health risks. Nurses have the expertise to assist individuals in recognizing the need to modify undesirable lifestyle behaviors in order to extend and improve the quality of their life.

In 1979, the Summit County Health Department Hypertension Control Program developed and implemented a special Hypertension Detection and Follow-up Program at the worksetting. Since the beginning of the program professional public health nurses screen and educate employees. This not only facilitated accurate blood pressure measurement, but it allowed the nurse the opportunity to educate the client about the significance of the blood pressure reading and the risk factors associated with cardiovascular related disease. Volunteers at the worksite list personnel and promote a smooth traffic pattern. If the employer desires, a more comprehensive educational program on "Stress Management", "Living with Hypertension" and "Proper Dietary Practices" is presented concurrently with the detection program. Spouses may also attend if the educational session is offered in the evening.

This program is only one component of the more comprehensive Community Hypertension Control Program established in 1977 by the Akron, Summit County and Barberton Health Departments. The program has been funded by the Ohio Department of Health for eight years. The strength of the program has been its commitment to follow-up and education of the hypertensive.

Data generated from the early programs in the worksetting demonstrated that many workers did not see the need to visit a physician unless they were ill. Many blue collar as well as male white collar workers had not seen any physician for several years. Therefore programs need to be designed to motivate workers whose beliefs and perceptions about their health interfere with their willingness to participate. ("Successful Health Promotions", 1985)

In 1982, in one worksite population approximately 30 percent of the workers participating in the Hypertension Detection and Follow-up Program required further evaluation and referral to their source of medical care. This is slightly higher than the majority of worksites where other programs have been provided. A concerted effort to track these individuals referred for further evaluation resulted in the majority of clients following through and getting their blood pressure treated and under control.

In 1982 the Summit County Health Department Hypertension Control Program carefully reviewed statistics from the School Bus Driver Program. Yearly physical examinations are provided by the Health Department for the County school bus drivers. These are required annually for recertification by the Ohio State Board of Education.

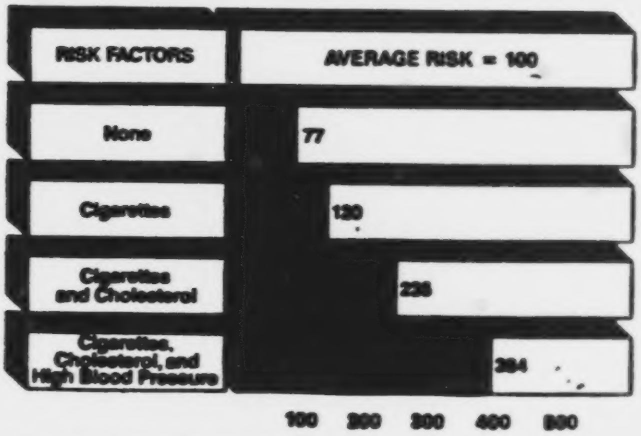
During 1982, 507 bus drivers received physical examinations, 496 were white and 10 were black. Statistics showed that 48 percent were obese and 30 percent smoked. Of the 507 examined, 90 were found to be known hypertensives or in need of further evaluation for possible high blood pressure disease. Of the 46 known hypertensives, 72 percent had their blood pressure controlled. Another 7 percent had blood pressure readings in the borderline category and 20 percent were found to have elevated measurements. An intensive program to provide those clients identified as hypertensive has been undertaken. Information about hypertension is provided through special group programs as well as individual patient education sessions. The use of creative video tape presentations produced by the audio visual committee of the Summit County Health Department has been another method used to influence and encourage this special population to comply with their prescribed therapy.

As a result of the information gathered from more than 25 worksites, we confirmed what the experts have been saying that hypertension is not a single factor disease. Clients often combine other risk factors such as a diet high in saturated fat, cigarette smoking, stress, both at home and work, and a sedentary lifestyle. Each cardiovascular risk factor can pose a significant threat to health, but when they exist in combination the incidence of premature death is greatly increased as shown in Figure 1 (USDHHS, 1984).

Figure 1

The Danger of Heart Attack Increases with the Number of Risk Factors Present

Example: 45-year-old male



Source: The Framingham, MA Heart Study

The dangers of heart attack increase with the number of risk factors present. This chart shows how a combination of three major risk factors can increase the likelihood of heart attack. For purposes of illustration, this chart uses an abnormal blood pressure level of 180 systolic and a cholesterol level of 310 in a 45-year-old man.

According to statistics released by the American Heart Association, 43,500,000 Americans have one or more forms of heart or blood disease. This will result in an estimated cost of 72.1 billion dollars for cardiovascular related diseases in 1985 in the United States, Figure 2. It is interesting to note that most Americans can readily identify the recent heart transplant recipients and yet most people are not familiar with the National Institute of Health Report addressing the studies on lowering blood cholesterol to prevent heart disease. The media often chooses to focus significant attention on curative therapies and reports daily, if not hourly, on the progress these patients are making. This in and of itself is not wrong, but seems to reflect and confirm the need to focus on

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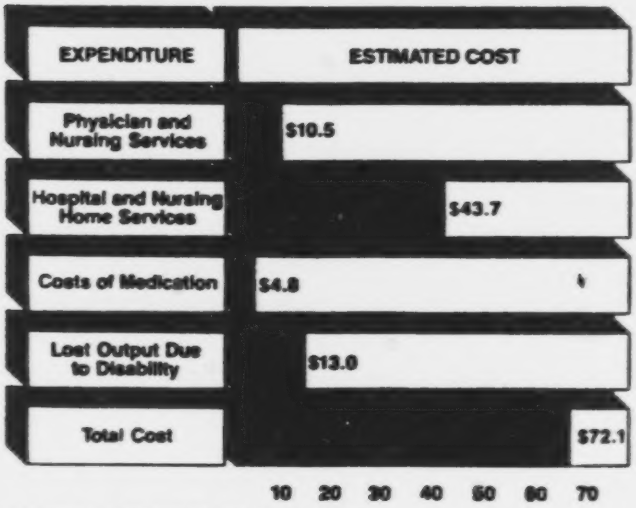
ways to motivate people to improve their own health as a more cost-effective alternative to using the newer technological modalities after the disease is present.

Figure 2

Estimated Economic Costs in Billions of Dollars of Cardiovascular Diseases by Type of Expenditure

United States: 1985 Estimate



Source: American Heart Association

The costs illustrated in this chart are for physician and nursing services, hospital and nursing home facilities and medications, as well as the lost occupational output as a result of disability

In 1984, a pilot program to address the broader aspect of wellness was initiated. Nurses and health educators in the Hypertension Control Program utilized the Health Risk Appraisal tool from the Center for Disease Control to help clients identify other potential health problems. The Health Risk Appraisal includes plasma cholesterol, blood glucose, blood pressure measurement, and height and weight. The computerized results are shared with the clients in a private session. In the worksetting this seems to be the most beneficial and confidential method. Small group sessions are appropriate only when groups of workers can leave their jobsite at the same time. We believe workers are most likely to discuss a problem if they are in an individual setting with a health professional.

Although the primary objective of the program is to target hypertensives who combine other risk factors, all workers receive the opportunity to participate. A resource directory of community risk reduction programs, i.e., Smoking Cessation, Weight Reduction and Stress Management, is available for the clients and is an important aspect of the program.

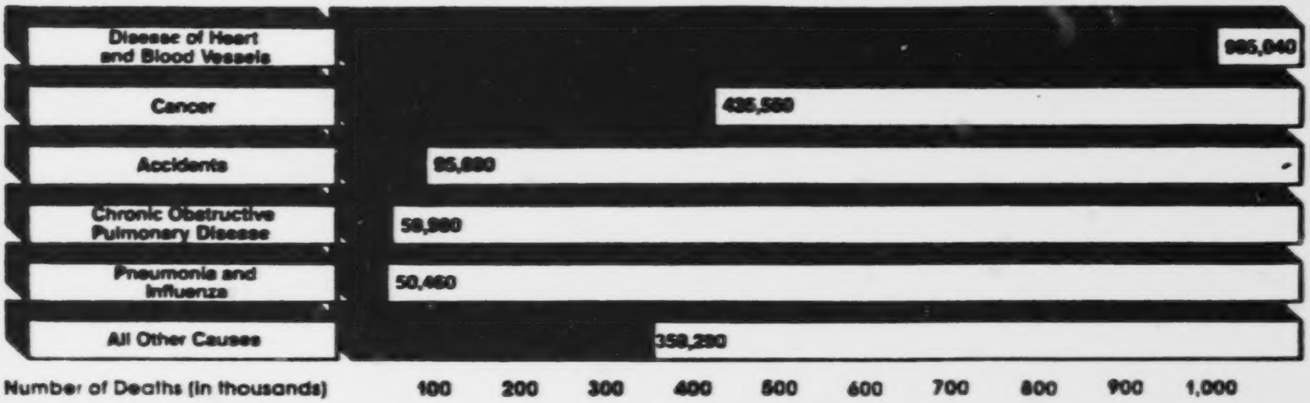
A unique community education program known as "Hyperspace" is an adjunct to the wellness program. It is designed to provide a support system for the hypertensive patient and his/her family. The program promotes behavior change. "Hyperspace" seeks to improve adherence to therapy with recommended pharmacological as well as nonpharmacological interventions. There are eight weekly sessions and the programs are held in the community or worksetting. Individual programs, i.e., Learning to Manage Stress and Dietary Factors that Impact on Hypertension and Cardiovascular Related Disease, are taught by public health nurses, health educators, and nutritionists.

Today, the challenge is clearly different than the early years of this century. Degenerative diseases such as heart disease, stroke and cancer cause 75 percent of all deaths in this country, Figure 3 (USDHHS, 1979).

Figure 3

Leading Causes of Death

United States 1982 Estimate



Source: National Center for Health Statistics, U.S. Public Health Service, DHHS

If we are to improve the health of individuals and families, we must search for new strategies to assist people in recognizing that the decisions they make today affect their well being tomorrow.

Nurses can make a difference. The public health nurse particularly is in a unique position as she interacts with clients in the community to monitor, encourage, and promote behavior change that affects wellness. She needs only to be creative and innovative in her approach.

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